2007

The frame work for kinetic text messages on mobile phones

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The frame work for kinetic text messages on mobile phones

by

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A thesis submitted to the graduate faculty

in partial fulfillment of the requirements for the degree of

MASTER OF FINE ARTS

Major: Graphic Design

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Iowa State University

Ames, Iowa

2007

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ABSTRACT

Text messaging on the mobile phone has become a hugely popular feature of youth oriented technology. Young people often use emoticons or small animated icons to convey expressive details such the speaker's tone of voice or intensity of emotion. These icons, however, are quite limited in their expressive potential. Kinetic typography has the potential to go far beyond the emoticon. Using kinetic text messages, therefore, should produce more enjoyable communication experiences for young users. This study explores both the appeal of kinetic text messaging, and the small screen as a design format. The results of two surveys were used to develop a prototype and evaluate users' impressions of kinetic messages. The results indicate that - the appeal of kinetic text messaging and level of acceptance among users appears to be high and suggests that kinetic text messaging should be developed as a future feature for mobile phones.

CHAPTER 1. INTRODUCTION

Text messaging using mobile phones has become a major communication tool for many people, especially for young people. It has, in fact, become a hugely popular feature of youth oriented technology. Text messaging allows young people to coordinate everyday activities, concerning the large and small events in their lives. As the technology has continuously improved, business has continued to develop innovations uniquely suited for use on mobile phones. These innovations include adaptations of mobile phone capabilities to provide communication and entertainment experiences that are particularly appealing to young users. This audience has been quick to adopt mobile phones and technologies. In these ways, mobile phone technology both responds to and meets the unique needs of young people.

According to Norman (2006), we are moving from static to dynamic displays. In the dynamic displays, the movement is a major part of the attractions. This concept suggests that the kinetic text message has the potential to add significant appeal to the expressive capabilities of text as opposed to the current static text message displays on mobile phones.

Kinetic typography has been used widely and successfully in film title sequences, music videos, TV commercials and websites as well. It has been emerging as a new form of expression due to its ability to add emotional content and expression to text. Kinetic typography has the ability to convey emotion, to portray tone of voice, and visually direct attention; these qualities should be very appealing to young audiences. However, its communicative abilities have not been widely studied, and its potential has rarely been

exploited in mobile phones due to inadequacies in technology such as color, resolution and size of screen. At the present rate of improvement, advances in wireless technology and in the device, itself, will soon make everything possible on a mobile phone. Already, color and resolution are substantially improved. The presence of color technology and larger higher resolution screens, suggests that it is time to explore kinetic text messaging on the mobile phone. The objectives of this study will be:

1) To explore the mobile phone screen as a design format
2) To learn how the design elements and principles can be applied to kinetic text message and to enhance text communication.
3) To determine the appeal and level of acceptance of kinetic text messaging among young users.
4) To explore the readability of kinetic typography on the small screen.

Young people often use emoticons to convey expressive details such the speaker's tone of voice or intensity of emotion, however limited these symbols may be; kinetic typography has the potential to go far beyond the emoticon. Using kinetic text messages, therefore, should produce more enjoyable communications experiences for young users.

The goal of this study, therefore, is to determine the potential appeal of kinetic text messages to mobile phone users, and to explore the small screen as a design format for kinetic text as communication

Three knowledge bases will be relevant to this study.

1) Mobile communication technology

2) Mobile culture

3) Elements and principles of kinetic typography

The first part of literature review will show the current stage of mobile communication technologies such as the functions currently possible on the mobile phone device. It will deal with screen display size, colors supported, and resolution. The second part will review the cultural effects of mobile technologies among young users. We will explore how technology and the mobile phone text messaging affect young people's lives including some social ramifications of mobile phone usage such as language abbreviations and some entertainment cultures. In the third sections, the elements of kinetic typography will be described.

The methodology includes an initial survey, the development and testing of a visual proto type model, and a follow up survey. First, an advance survey will be conducted to learn usage habits of young users, particularly the most frequently used text messages. The visual prototype will then be created to represent these messages identified by the initial survey. In order understand the possible public response to kinetic text messaging, users will be asked to view the prototype examples of kinetic text messages. A follow up survey will be conducted to learn users' impressions of kinetic messages, whether or not they would be likely use this feature, and what kind of visual representations might be appropriate to common text messages. Tabulation and evaluation of the gathered data will help to assess the potential value of kinetic text messaging on mobile phones.

CHAPTER 2. LITERATURE REVIEW

A. Mobile communication technology

1. Overview of mobile communication technology

Mobile communication has become an essential part of our daily life. Along with technological developments, the number of subscribers to mobile phone services has increased dramatically since the early 1980s (Ling, 2005). Figure 2.1 shows this dramatic growth in the number of mobile phone subscribers. As of 2002, there were approximately 1.162 million mobile phone subscriptions and according to Schiller (2005), the number is expected to reach 3 billion by 2010 (p. 14).

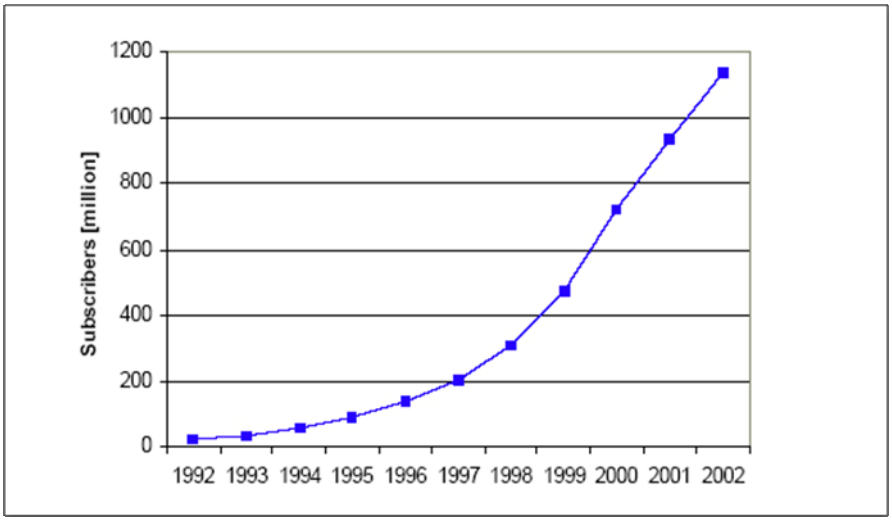


Figure 2.1 The growth of mobile phone subscribers (Schiller, 2005. p.14)

This contemporary mobile communication system has been a revolutionary change. The data presented in Figure2.2 shows the history and future of mobile communication systems according to Ohmori et al. (2000). A new mobile communications system has been developed almost every 10 years. These new systems have in turn gone on to become commercial services. Given this developmental pattern, we should expect to see

the next system that provides completely new services by 2010 **(**Ohmori et al., 2000).

	1980s	1990s	2000s	2010s	2020s
Generation	First	Second	Third	Fourth	Fifth
Keywords	Analog	Digital personal	Global world standards	High data rate High mobility IP-based	High data rate High mobility IP-based
Systems	Analog cellular	Digital cellular	IMT-2000	4G-cellular	5G-cellular
		GSM, IS-54, PDC	(3G-cellular)	Broadband access	Broadband access
	Analog cordless	Digital cordless		ITS, HAPS	ITS, HAPS
		DECT, PHS	Max data rate	Mini data rate	Mini data rate
			2 Mb/s	2–20Mb/s?	20–100 Mb/s?
		Mobile satellite			
		Iridium, Inmarsat-M			

Figure 2.2 Generations of mobile communications (Ohmori et al, 2000 p.135)

The first generation of mobile communication was developed in 1980 (Ohmori et al., 2000). This first generation mobile phone was mainly used for voice communication. First generation (1G) systems for mobile telephones utilized analogue technologies which were less secure and more prone to interference when the signal was weak (Ling, 2004). The second-generation stage (2G), which was introduced to the market during the early 1990s, introduced the Global System for Mobile Communication (GSMC), Code-Division Multiple Access (CDMA), and Code-Division multiple Access (TDMA) (Ling, 2004). One of the services introduced in the second generation was the SMS (Short Message Service). This short text messaging service was an innovative new way to keep in touch with people and better still, it fit easily and conveniently into people's lives. (Thompson, 2005). Between the 2G and 3G systems, an intermediate stage developed (2.5G). It remained under the same network protocol, but provided services such as WAP (Wireless Application Protocol) and GPRS (General Packet Radio Service) which enable mobile phones to access certain websites (Ling, 2004). Colored screens with

mobile phones with camera-features were also introduced , and allowed people to share photos instantly. People were now able to record the events of their lives as they happened and then share these events through the use of digital media. This new kind of digital record keeping became a new form of daily journal (Thompson, 2005). The 2.5G system represented the most significant step toward 3G, as it requires similar business models and service network architecture (Ling, 2004). The third generation (3G) phone, however, is based on entirely new network protocols such as IMT-2000, UMTS and W-CDMA (Ling, 2004). These protocol standards allowed high speed connection via the mobile phone which in turn permitted higher quality voice communications, video calls, access to the internet and also television reception. The third generation systems could do practically anything from anywhere. In this case, “anything” included internet access, video and music downloads etc (Eylert, 2004).

The anticipated fourth generation (4G) communications systems will be characterized by hi-speed data rates, suitable for high-resolution video and television display (Studio 7.5, 2005). The mobile phone has become more useful, user friendly, and technologically advanced with each generation; the simple portable phone has now evolved into a multi-functional device. Figure 2.3. Shows “the convergence of different types of well-known equipment technology towards the fully integrated multimedia terminals of the future” (Eylert, 2005. p.156).

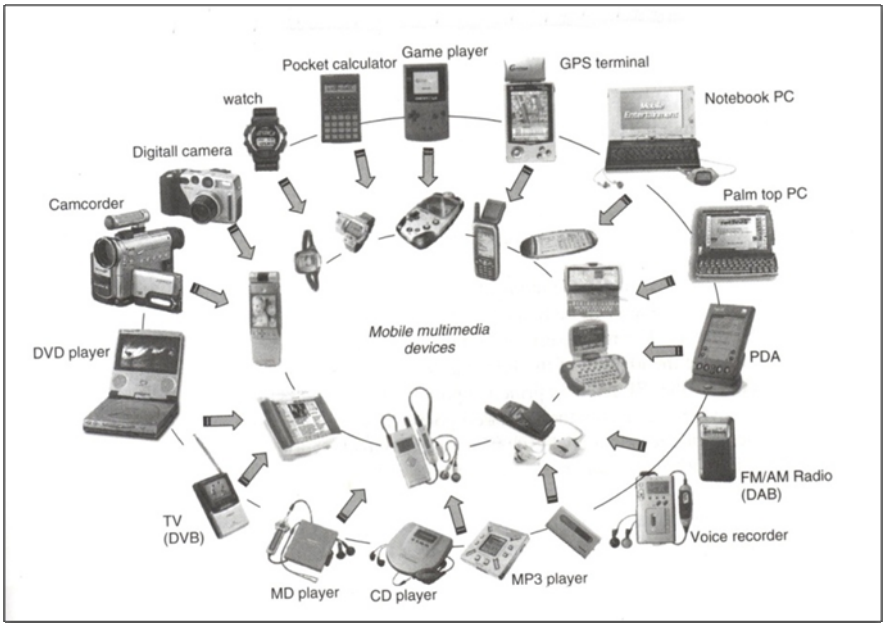


Figure 2.3. Multimedia devices (Eylert 2005 p.157)

Mobile phone games, camera functions, MP3 palyers and short films are now available on the mobile phones. Current trends indicate that mobile phones are moving away the telephone paradigm, and toward to data communication on the Internet (Nttdocomo, 2007). I-mode, a Japanese mobile internet service, has gained great popularity among young users. This service has caused a revolution in both business and private lifestyles in Japan (Natsuno, 2003). I-mode has attracted Forty-six million subscribers since its start in February 1999 and currently offers more than 95,000 Internet sites are providing a wide variety of services(Nttdocomo, 2007).

> The I-mode system has brought broadband communication to mobile networks which allows terminals to support media-rich content such as moving images. It also allows PDAs and mobile computers to download large amounts of data at high speed via wireless LANs (Nttdocomo, 2007).

One of the most popular I-mode features has been Deco-mail; Figure2.4 shows some of the icons used in deco mail. As the name suggests, Deco-mail allows the user to

decorate their text messages. Users can by change background color, the font color, attach images and animations (Nttdocomo, 2007).

Figure 2.4 Deco mail (http://www.nttdocomo.co.jp)

Highly convenient functions made possible by technological developments are crossing the conventional boundaries of mobile phone functionality. Figure2.5 provides us with a "glimpse of the new exciting world that we can expect" (Eylert, 2005. p.17). We can anticipate many kinds of new mobile services and many opportunities for future development.

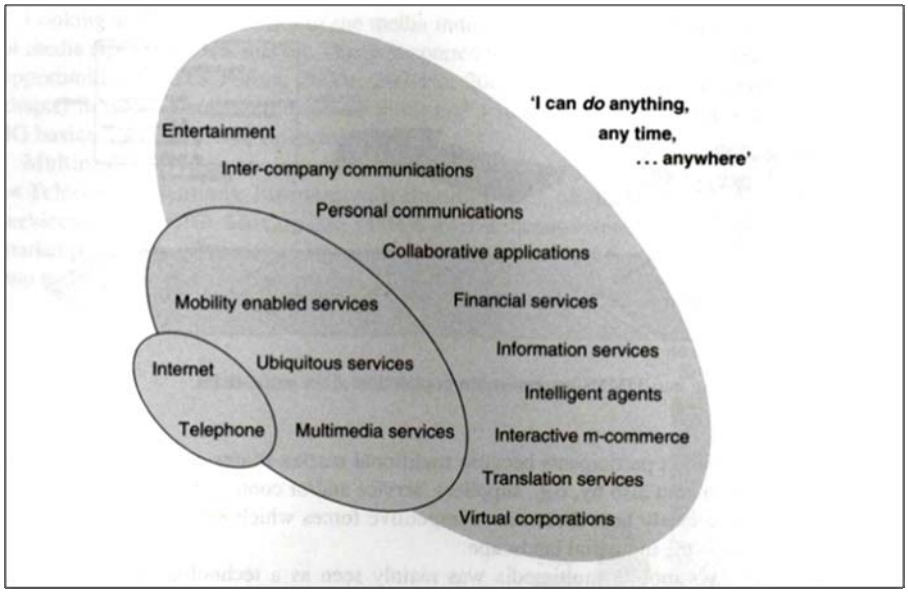


Figure 2.5 The new opportunities of mobile multimedia broadband (Eylert 2005, p.18)

2. Analysis of the existing Mobile phone device

2-1.Screen size & color

Larger screen sizes, higher resolution, and improved color has increased interest in mobile phones.

> At the start of the twenty-first century, the variety of handsets expanded dramatically as phones began to incorporate color screens and built- in cameras. The size and resolution of screens became paramount, and being able to input data was as important as receiving it, creating a need for innovation in keypad designs and touch screens (Thompson, 2005. p.99).

Figure 2.6 demonstrates the changes we have witnessed in screen size. Once the industry realized the importance of screen size to the mobile phone users, the designs have focused on larger screens and higher resolution. Until the color screen appeared, manufactures had tried to make the device as small as possible. However, since color screen and multi-media service have emerged, it has been necessary to increase screen size. This permits the display of high quality photo images, video games and unlimited text messaging and multimedia. Small screen size does not effectively support the greater variety of media services.

When we refer to a small display, we usually mean its physical size, but the resolution is an additional way to define the size of a display. Screens, therefore, are defined both by their physical size and the number of pixels they can display(Zwic, et al., 2005). A pixel is the smallest element that display software can use to display text or graphics. For example, a display resolution described as being 640*480 can display 640 pixels across the screen and 480 down the screen. Thus providing a total of 307, 200 pixels (Zwic, et al., 2005). The higher the number pixels, the higher the screen

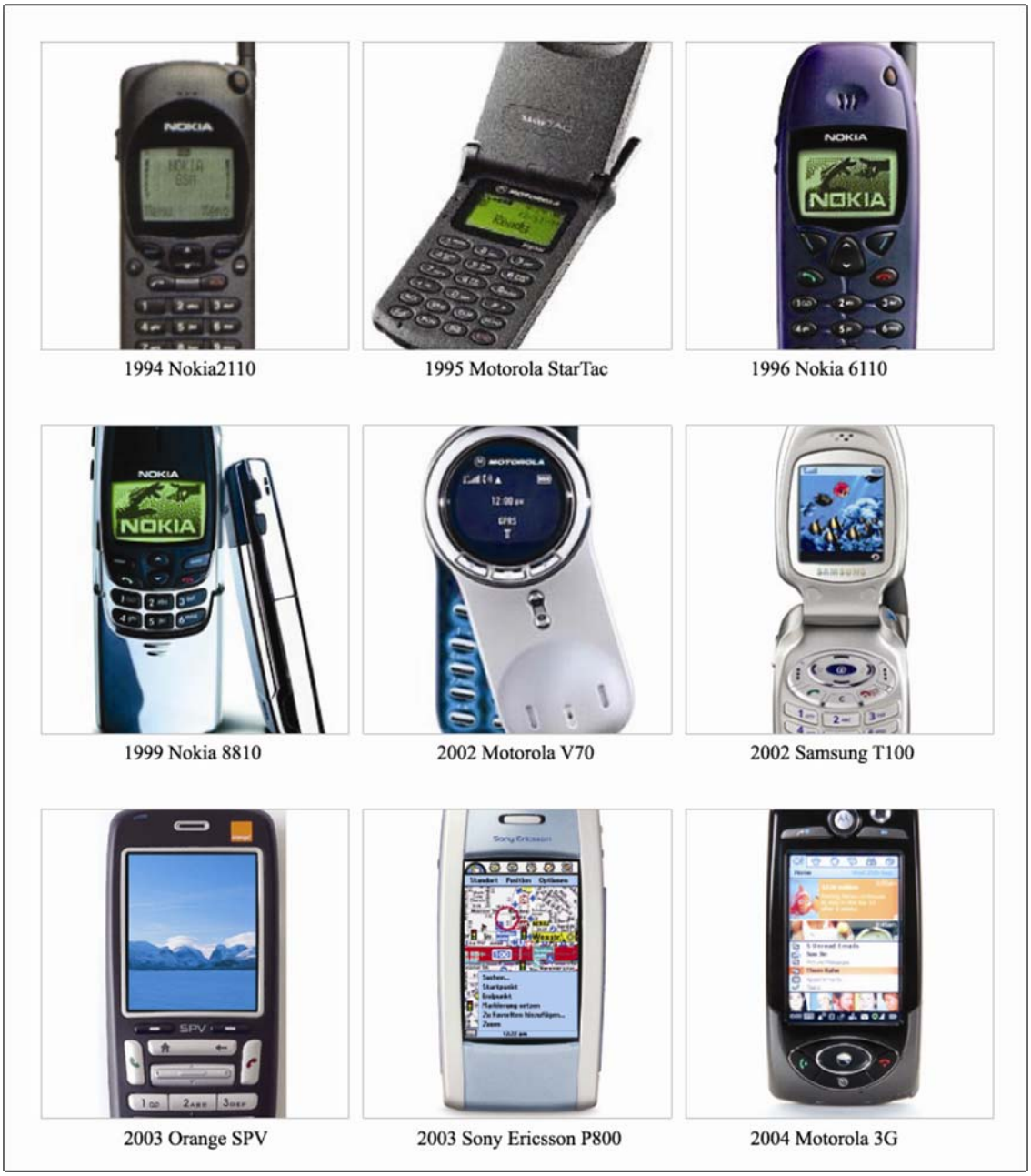


Figure 2.6 The change of screen size

resolutions will be. The resolution determines both the amount of information and the clarity of image that can be simultaneously displayed.

> Early mobile phones tended to focus on audio features and lacked visual appeal. The visual requirements of mobile phone displays were not very demanding in the first and second-generation systems. The small

bandwidth of the networks limited the amount of information to be transmitted and shown. Therefore, small black and white displays were adequate (kummels, et al., 2002).

Figure 2.7 Shows the display design of Nokia 6210 which was introduced in 2000. The display has a 96 x 60 pixels resolution and monochrome graphic. Cell phone displays were small and allowed only a few menu items to be displayed at a single time. The screen can display only five to six lines of text.

Figure 2.7 Display design of Nokia 6210 (http://www.mobile-review.com)

Figure 2.8 shows the display screen of the Siemens S10 (1997). This is the first mobile phone with color display. It was just about possible to recognize four colors on its 97*54 pixel screen (Zwic, et al., 2005).

Figure 2.8 The first color display (Zwic, et al., 2005. p.8)

The color depth available on even a small screen is constantly increasing. The processor power and battery capacity will determine exactly what depth is possible, but most color displays will soon offer at least 18 bit color depth, which results in 262,144

available colors (Zwic, et al., 2005). Figure 2.9 illustrates the concept of the color depth; 8 bits (256 colors), 12bit (4,096 colors), 16bit (65,536 colors), 18bit (262,144 colors). For instance, “a 12 bit color depth means that each of the red, green and blue sub-pixels can take on 16 different brightness levels which results in 4,096 color shades” (Zwic, et al., 2005. p.154,155). In practical design work, greater color depth means that more individual color shades are available. For example, “color gradations can only be displayed satisfactorily with a color depth of 16 bits or higher” (Zwic, et al., 2005.p.154,155).

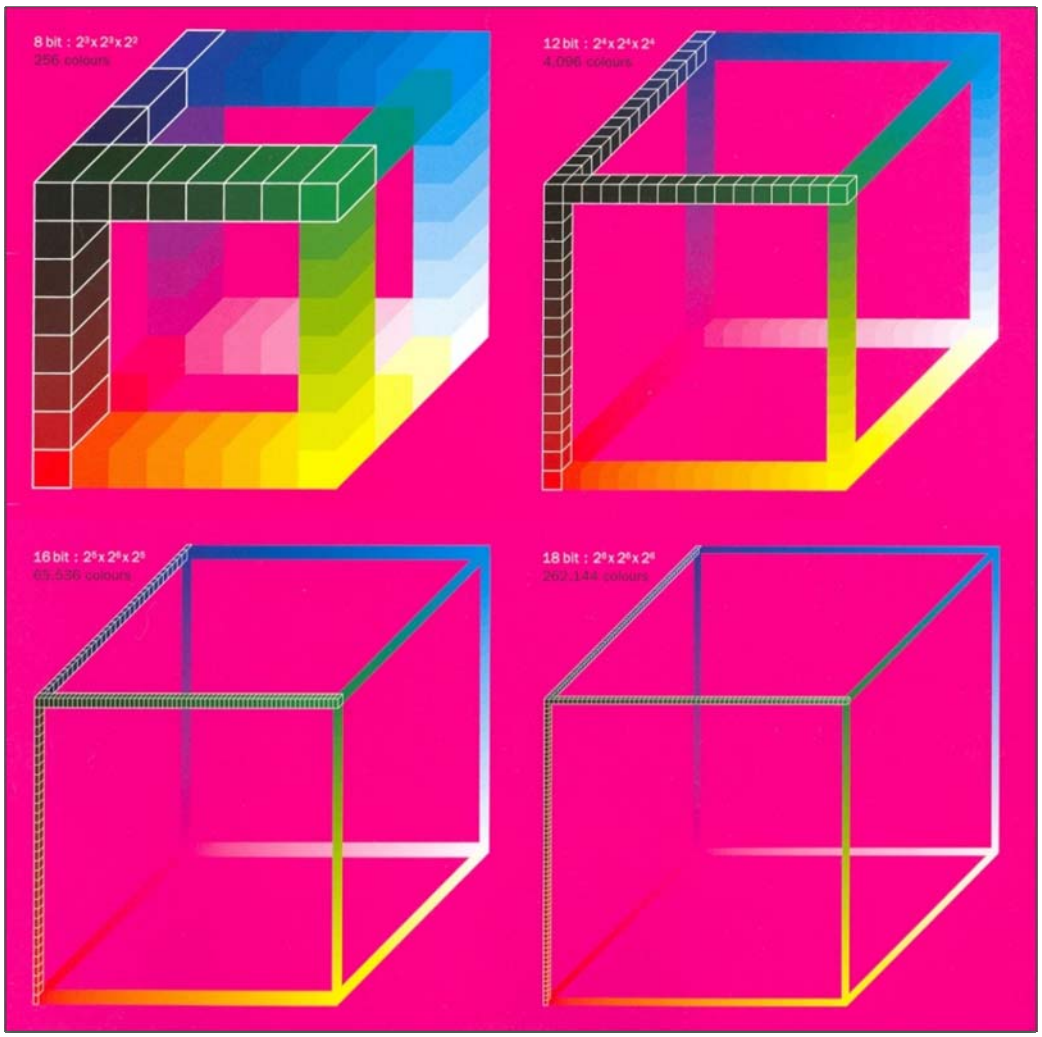


Figure 2.9 The color depth (Zwic, et al., 2005. p.154,155)

Advanced contemporary mobile phones of the third generation are using high resolution graphic displays to support multimedia services. The Motorola A1000 (Figure2.10) which was introduced in 2004, provides 65,535 colors, a resolution of 208 x 320 pixels. It is able to display up to 20 lines of text messages and show video content or the latest film clips with an impressive clarity and resolution (Motorola , 2006).

Another new model, the Samsung D830 (figure2.11) which was introduced in June 2006 is capable of showing up 262,144 colors at a resolution of 240 x 320 pixels. (Mobilereview, 2006)

Figure 2.10 Display design of Motorola A1000 (http://www.mobile-review.com)

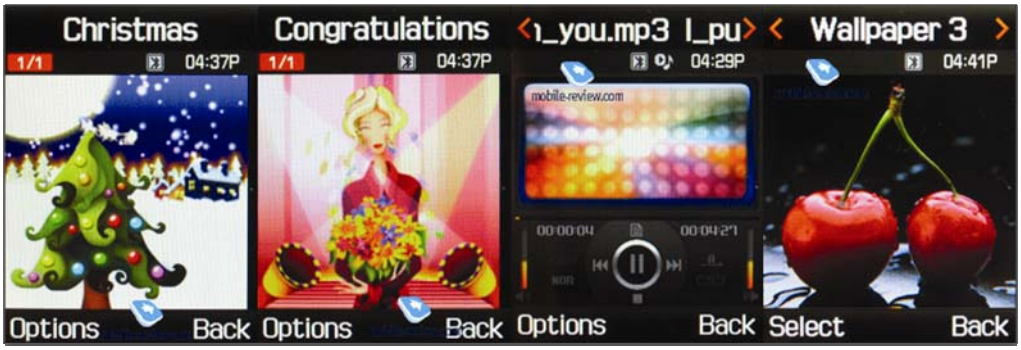


Figure 2.11 Samsung D830 (http://www.mobile-review.com)

The newest model, the Nokia N95 (Figure2.12) which was launched in Spring 2007, offers a first class entertainment experience with 24 bit color display at 230*320 resolution and impressive 3D graphics (Nokia, 2006) .

Figure 2.12 Nokia N95 (www.nokia com)

Improved technology has continuously improved resolution, colors display, and increased the capacity of the mobile phone. The processor performance, screen resolution and color depth that are now available, offer “considerable freedom of design” (Zwic, et al., 2005, p.38). The technology supporting small screens has indeed grown-up. As result,

an increasing number of full-size applications are now transferring to the small screen (Zwic, et al., 2005).

2-2 Screen display design

As technology continues to advance, an assortment of display design has become possible on the mobile phone. Many companies are developing its interfaces in interesting directions and unique ways. Figure 2.13 shows an early cell phone's status icons, from the Nokia phone Series 30. It is just 6 pixels high and has very minimal graphic design (Linholm, et al., 2003). However, advanced mobile phones use lots of different styles of interface designs, which are more animated, more interactive, more colorful and clear.

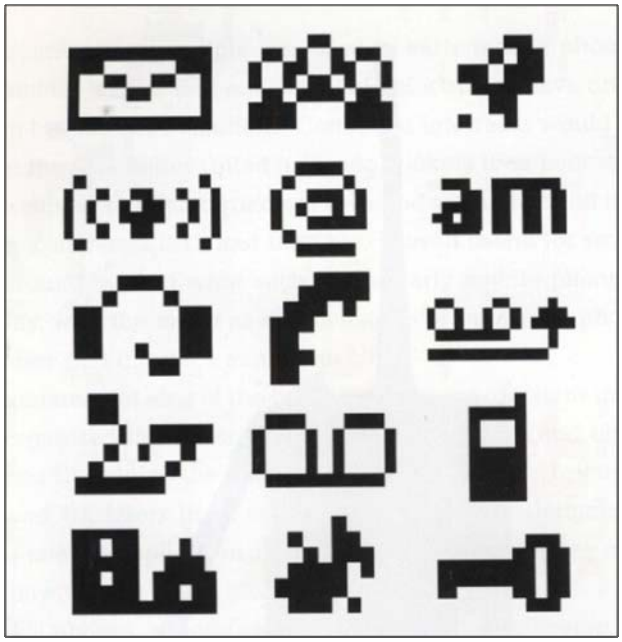


Figure 2.13 Nokia Series 30 style Icon design (Linholm, et al., 2003.p 52)

For comparison, Figure 2.14 shows several different styles of menu display designs available on recent phones. The menu display design of the first example (left), the LG KG800 (2006), also called the "chocolate phone," has the appearance of a grid system

with 9 two-dimensional animated icons. The second example (center), the model LG LP5500 (2004) has a cluttered look. When you select the icons, the status icons stand out from the crowd. The third example (right) is the interface of a new mobile brand HELIO Which targets the youth market (Helio 2006) . It is a new style of interface design, with a roundabout-style menu and a round scroll wheel. When the wheel turns, the menu rotates.

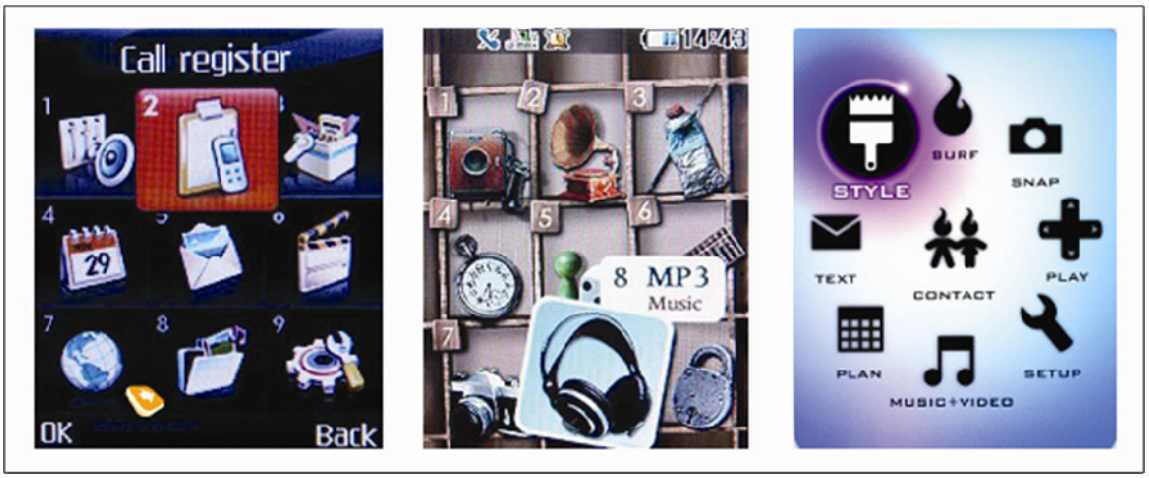


Figure 2.14 Display designs (LG LP5500, LG LP5500, Helio 2006)

Recently, Mobile-review (2006) has published a review of the new Samsung D900. The phone features a “Living World” interface with live interface elements, apparently created with Adobe's Flash Lite 2. What is shown on the idle screen (Figure2.15) depends on the time of the day, as well as the homeland of the users. The sunny sky wallpaper is shown during daytime and dark sky and lighted windows are shown in the evening. Technology makes it possible to incorporate time into a graphical approach which constitutes an interesting addition to the mobile phone.

Figure 2.15 Samsung D900 Idle screen (www.mobile-review.com)

Figure 2.16 shows more improvement in interface. The graphical elements are now used to show a number of functions, such as the network reception level. When the signal is strong, the sky is blue, when the signal is weak, or no signal, the sky is covered with clouds. Missed events and the alarm clock are displayed on screen in exciting new ways. In daytime such events will be demonstrated by an airplane that will fly through the sky, and in the evening by fireworks. These effects are powered by standard, traditional pop-up windows with text. Color also will change according to event type.

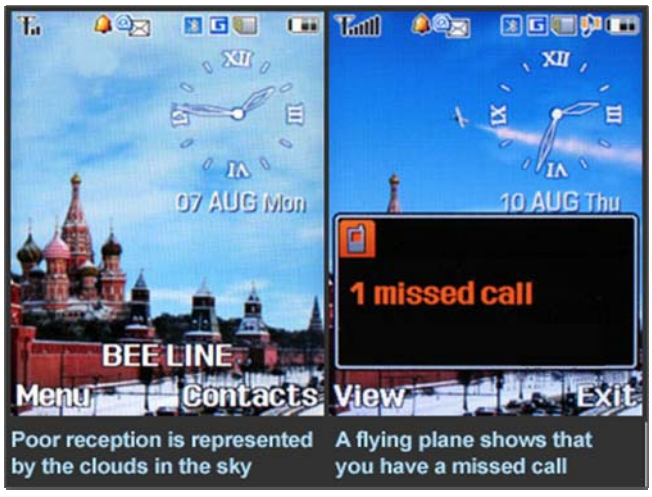


Figure 2.16 Samsung D900 Idle screen (www.mobile-review.com)

Another amazing Japanese handset, designed by Oki Sato, the FOMA N702iS, has elements of what is called a “live interface” (Figure 2.17). In addition to performing common tasks, the user of these devices can play or interact with screen content. The default screen looks like it’s filled with water. If the user tilts the phone or shakes it, the “water” will behave correspondingly (Mobile review, 2006).

Figure 2.17. FOMA N702iS (mobile review.com)

An emerging trend in mobile interface is “artiness” in the interface and appeal to visual high volume younger generations (Mobileweblog, 2006). Technology could bring a great look and feel to the mobile interface and make everything possible on a mobile phone.

B. Mobile phone cultures.

1.The impact of the mobile phone on the lives of young people.

It is often said that mobile phones, and text messages in particular, have changed the lives of teenagers and young adults (Ling 2004). As Griffin (1993) describes it,

> Youth are continually being represented as different, other, strange, exotic and transitory.” Nowhere is this more true than in the press and broadcast portrayals of young people’s technology usage, particularly mobile phones (p.25).

It appears true that, young people have a special aptitude for technologies, and in particular communications technologies; many of them go on to develop imaginative ways of using the technology to make it work for them (Thurlow, 2003). Furthermore, as is clear from the current study, mobile phones and text-messaging have found their greatest success among young people (Thurlow, 2003). Perhaps we can imagine how teenagers of the past would wonder what their friends were doing, now in contrast, they can just call or text them easily. Teenagers have been quick to adopt mobile phones and technologies. Text messaging has been regarded as a skill and practice of the younger generation since it was introduced in the late 1990's. Mobile phone text messaging has grown rapidly as a communications technology among young people (Ling 2004). The popularity, of text-messaging, among young people is largely due to the fact that the equipment is small and mobile. Therefore it affords young users a quiet, private, and relatively inexpensive mode of communication. Text messaging allows young people to maintain contact with their friends and colleagues. They can text when sitting on the bus, in the classroom, or in the case of socially starved young people, under the covers late at night. It allows young people to coordinate everyday activities, concerning the large and small events in their lives. In these ways, mobile phone technology meets the unique needs of young people.

2. Language use in text message- "new hieroglyphics"

Languages on the internet, like the language used by young instant messagers, have been described as a "new hieroglyphics" (Thurlow, 2003).

> Text messages often bear more resemblance to code than to standard language. A text filled with code language expressions is not necessarily

> accessible to an outsider. The unique writing style provides opportunities for creativity (Kaseniemin and Rautianinen. 2002, p.183)

If the text communication of young people seem enigmatic, it is because they have a shorthand that permits efficient communication in text messaging. In some ways, text messages are odd constructions which are difficult to write. Text message is limited to 160 characters and the displays for reading the messages are small. Due to these limitations, abbreviations, acronyms and text-based emoticons are adapted largely by young users. On the phone each key has several characters in addition to a number, this means in entering a character, the user must identify which character they intend to use; they do this by means of multiple key presses. Several key presses may, therefore, be required to enter each character. For example to enter “v” the “8” key must be pressed three times because “v” is the third character on the “8” key. Furthermore, to write two characters from the same key consecutively requires a pause in the procedure. For example figure2.18 shows the steps required type the word “feet.” First the “3” key must be pressed three times to enter the “f” character. A pause is then necessary before the “3” key can be used again to enter the first “e.” The pause allows the phone to recognize that a new character will be entered. A further pause is then needed before the “3” key can be pressed again to type the second “e”. Finally, the “8” key is pressed once to produce the letter “t”.

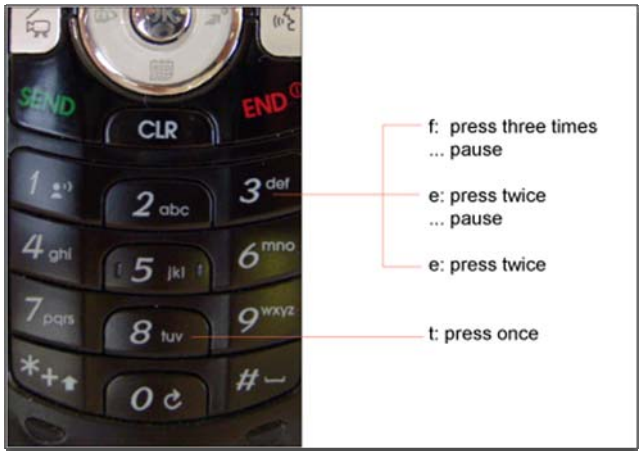


Figure 2.18 Steps required to input “feet”

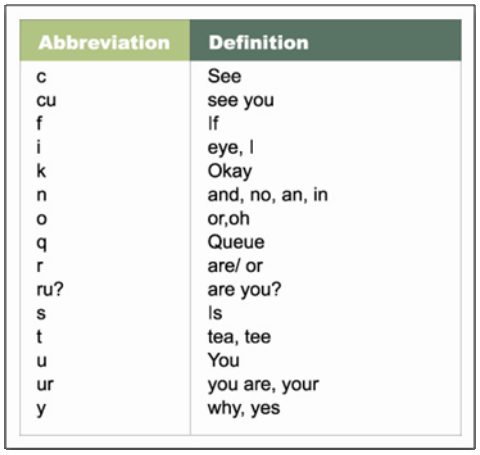
This time-consuming multi-tap method for entering text on phones has led to shortened words such as CUL8R(see you later), lol and smiley faces e.g. ;) ;((Figure2.19). These were adapted from internet messaging, brought to texting largely by young users, in order to ease message composition.

Smile	:-) or :)	
Cry	:'(	
Wink	;-) or ;)	
Angry	:-@ or :@	
Sad	:-(or :(	

Figure 2.19 Emoticons.

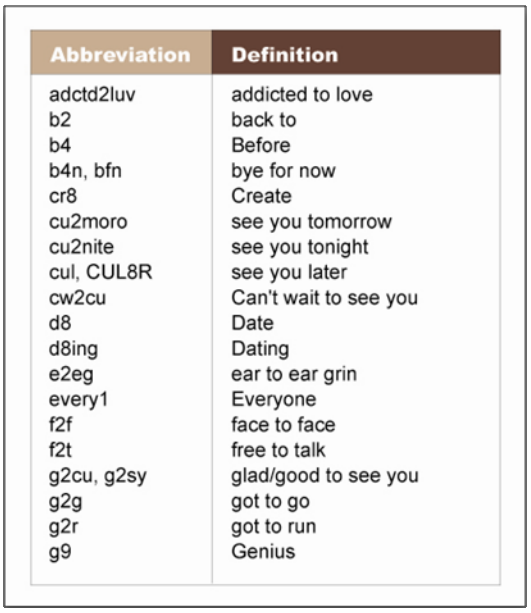
When they text, they change the words to shorten the language, this allows more rapid interaction. Text messagers abbreviate language to further reduce the number of characters in their massages. The following examples are different kinds of abbreviations known to young users. Figure2.20 shows Bush’s “homophonic simple Grapheme” (Bush 2005). These are plays on language that use sound-alike words, syllables and symbols. For instance, “c” replacing “see”, and combinations such as “cu” replacing “see you,” are

common. Figure2.21 shows “letter-number abbreviations” (Bush, 2005). Four distinct numbers have become particularly popular for text messaging. These are numbers that can replace a word because of their sound . The number 8 replaces the sound [et] in (cre8), and 2 replaces /too/(cu2moro).



Abbreviation	Definition
c	See
cu	see you
f	If
i	eye, I
k	Okay
n	and, no, an, in
o	or,oh
q	Queue
r	are/ or
ru?	are you?
s	Is
t	tea, tee
u	You
ur	you are, your
y	why, yes

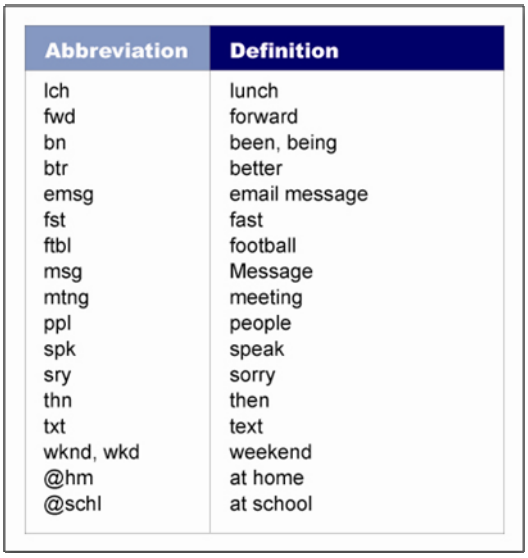
Figure 2.20 Homophone



Abbreviation	Definition
adctd2luv	addicted to love
b2	back to
b4	Before
b4n, bfn	bye for now
cr8	Create
cu2moro	see you tomorrow
cu2nite	see you tonight
cul, CUL8R	see you later
cw2cu	Can't wait to see you
d8	Date
d8ing	Dating
e2eg	ear to ear grin
every1	Everyone
f2f	face to face
f2t	free to talk
g2cu, g2sy	glad/good to see you
g2g	got to go
g2r	got to run
g9	Genius

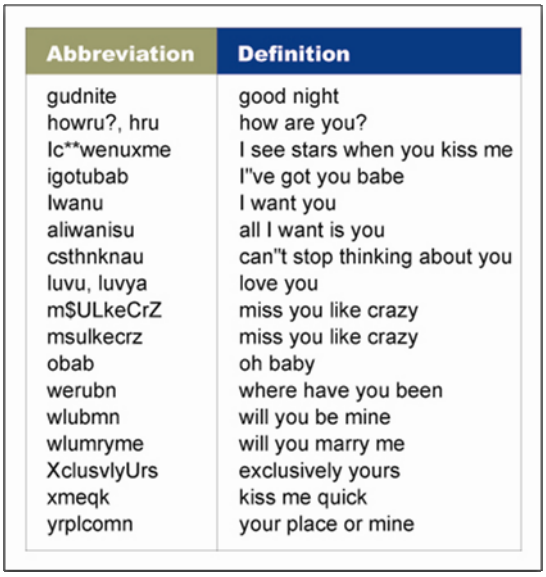
Figure 2.21 Letter-number

Figure2.22 show category “dropping vowels” (Bush, 2005). Eliminating the vowels from word is a fast way to use less language characters. For example “bcum (become) “ezi(easy)” or “ezy(easy).” Figure2.23 shows “Abbreviated Phrase” (Bush, 2005). Abbreviated Phrase is the language of combined text messaging techniques, “including combinations of acronyms, contractions, letter numbers and dropped vowels,” to name just a few (Bush, 2005). For example, “howru?” uses an “r” to represent the word “are” and the letter, “u,” is used to represent “you.”



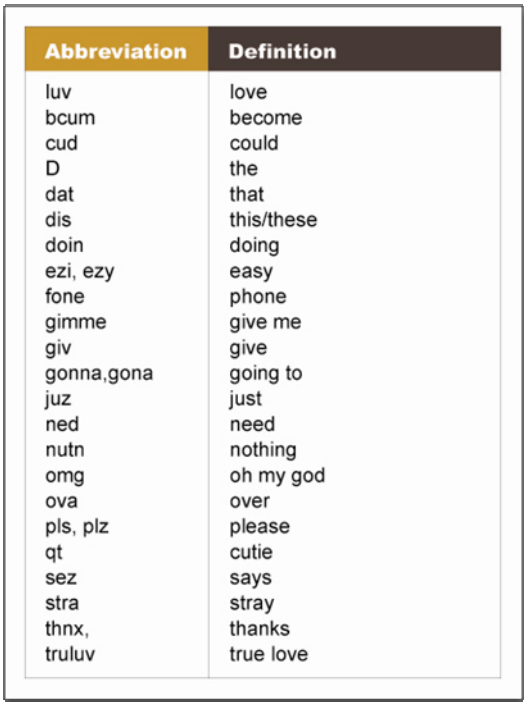
Abbreviation	Definition
lch	lunch
fwd	forward
bn	been, being
btr	better
emsg	email message
fst	fast
ftbl	football
msg	Message
mtng	meeting
ppl	people
spk	speak
sry	sorry
thn	then
txt	text
wknd, wkd	weekend
@hm	at home
@schl	at school

Figure 2.22 Dropping Vowels



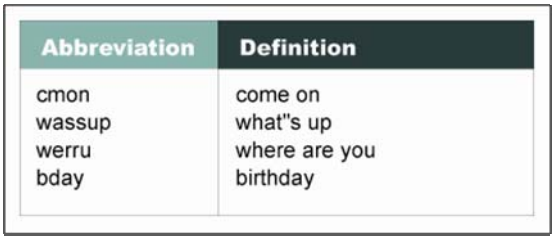
Abbreviation	Definition
gudnite	good night
howru?, hru	how are you?
Ic**wenuxme	I see stars when you kiss me
igotubab	I"ve got you babe
Iwanu	I want you
aliwanisu	all I want is you
csthnknau	can"t stop thinking about you
luvu, luvya	love you
m$ULkeCrZ	miss you like crazy
msulkecrz	miss you like crazy
obab	oh baby
werubn	where have you been
wlubmn	will you be mine
wlumryme	will you marry me
XclusvlyUrs	exclusively yours
xmeqk	kiss me quick
yrplcomn	your place or mine

Figure 2.23 Abbreviated Phrase



Abbreviation	Definition
luv	love
bcum	become
cud	could
D	the
dat	that
dis	this/these
doin	doing
ezi, ezy	easy
fone	phone
gimme	give me
giv	give
gonna,gona	going to
juz	just
ned	need
nutn	nothing
omg	oh my god
ova	over
pls, plz	please
qt	cutie
sez	says
stra	stray
thnx,	thanks
truluv	true love

Figure 2.24 Grapheme Change



Abbreviation	Definition
cmon	come on
wassup	what"s up
werru	where are you
bday	birthday

Figure 2.25 Contraction

Figure 2.24 shows how young users use “grapheme changes” to eliminate unnecessary characters (Bush, 2005). Young users often change the official spelling and

use only the letter needed for a sound in order to eliminate the unnecessary letter representations. For example, “ezi” or “ezy” keeps the initial “e”, eliminates the silent “a,” and replaces the “s” with “z” because in this case the letter, “s,” actually produces the “z” sound. Two alternatives are available for the “y” from the original spelling: keep it or replace it with an “i” which also produces the long “e” sound. Another way to condense the language is to create “contractions” (Figure2.25). We do this by leaving out part of a word such as “bday” for “birthday.” If the purpose, then, is to shorten the language, why they don’t change “easy” to just “ez?” That is because text messagers have more than one reason for making changes to the language, the other reasons are “stylistic preference and self- expression which are just as important” (Bush, 2005).

3. Entertainments on Mobile phones.

Since the invention of graphical user interfaces there has been a fundamental rule for design: no interface shall be without an entertainment value of some description. This especially applies to the design of small screen devices such as the mobile phone and the PDA, because they are far more personal than a personal computer. As mentioned in the first chapter, the resolution of the screens and colors is ceasing to be a limitation. Therefore small-screen devices can develop a wide range of entertainment values.

The desire for individual and enhanced forms of expression continues to stimulate the development of entertainment applications for mobile phones. The small screen has established the art of being creative with limited resources in a small space. This has led to a variety of design expressions and forms, a whole new type of design is developing. Figure 2.26 shows the ASCII (American Standard Code for Information Interchange) art

on the mobile phone. This system allows the users to make pictures using text symbols. ASCII art uses the screen as a canvas and applies the text of the mobile phone in surprising and creative ways.

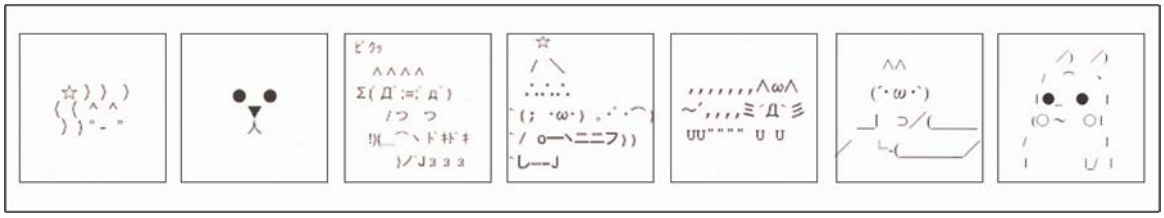


Figure 2.26 ASCII art on mobile phone (Studio 7.5 2005)

Figure2.27 illustrates the photo manipulation software which is becoming a popular addition to mobile phones. The graphic elements provided with the software can make the processed images into comic strip.

Figure2.27 Photographic post-processing software (Studio 7.5 2005)

Figure2.28 is an example of Deco-mail (NTT DoCoMo) which is also mentioned in Chapter One. This is text messaging with some interpretive motion; young Japanese users have made this a very popular feature of Deco mail.

Figure2.28 Animated text message-Deco-mail

Another popular entertainment service is called Kirari-Mail (Figure2.29). Kirari adds illumination to the communicative potential of the mobile phone. When a message or a new e-mail is received, a light comes on in the heel of the phone. The color of the light on the receiving phone reflects the emotion applied by the sender. Young users can convey their feelings with different color backgrounds and lots of ready-made emotion-related animation icons.

Figure2.29 Kirari-Mail function

As seen in the above examples, the mobile phone businesses try to build on the unique needs of the users as well as the characteristics of mobile communications and entertainment experiences.

C. Design consideration of Kinetic Typography

1. Overview of Kinetic typography

Lee et al.(2006) said that “kinetic typography is alternative solution for expressing emotions in text based communication” (p.42). Adding motion to typography, as a communicative medium, can add some of the expressive properties of films to text-based communication. Ford et al. (1997) also has said that “kinetic typography can be effective in conveying a speaker’s emotional intent, tone of voice, or quality of character” (p.269). From the beginning, kinetic typography developed through two different ways, “expressions” and “visual perceptions” (Forlizzi et al., 2003. p.378). The first known use of kinetic typography appeared in film Soul Bass’s opening credit sequence for Hitchcock’s *North by Northwest* (Bass 59) the and later in *Psycho* (Bass 60). Figure2.30, 31 illustrate the sequence of movie credits in *North by Northwest* and *Psycho*. These works were to set the stage by establishing a mood for the film rather than just conveying the information of the credits. For this purpose, kinetic typography has been widely used in film, TV commercials and computer based advertising. It has the power to get the viewer’s attention.

An important developmental direction in time-based presentation of text comes “from psychological studies of perception and reading.”(Forlizzi et. al. 2003, 377). Central to this research is a method called Rapid Serial Visual Presentation (RSVP) or RSVP, in which a viewer’s focal position is fixed and text is displayed serially (Lee et al. 2002).

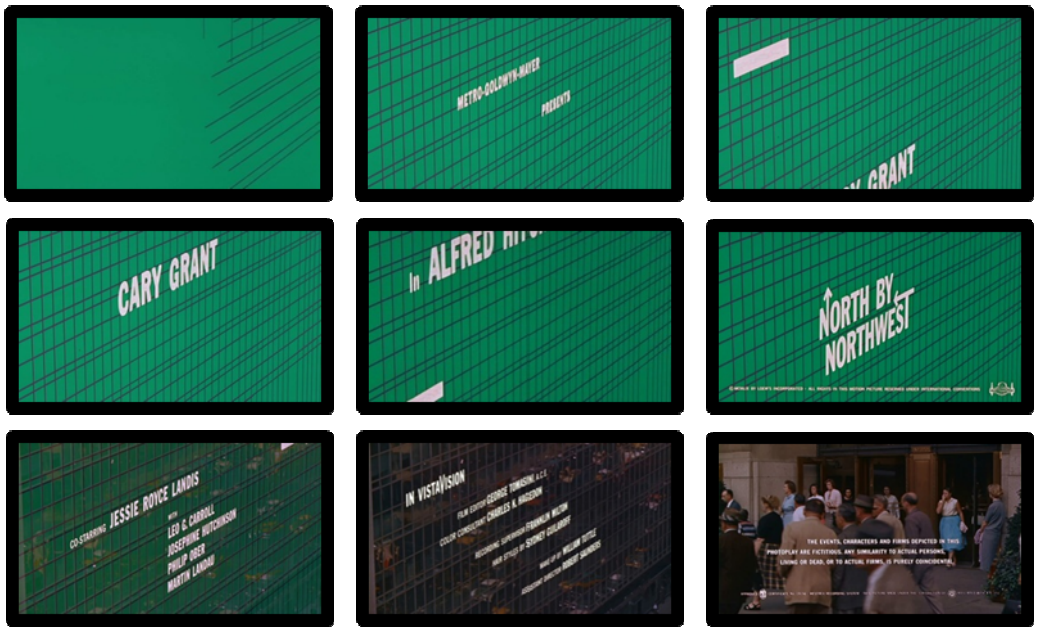


Figure2.30 the sequence of movie credits north by northwest
(http://www.notcoming.com/saulbass/caps_nxnw.php)

Figure2.31 the sequence of movie credits north by Psycho
(http://www.notcoming.com/saulbass/caps_psycho.php)

Figure 2.32 demonstrates the RSVP method; each piece of text is displayed briefly in sequential order. The studies have shown that people are able to read text rapidly in this manner without a need of special training because scanning eye movements are unnecessary when using RSVP (Lee et.al. 2002). In addition RSVP allows designers to manipulate typographic forms, such as changing the size of the word and finally, RSVP enables large bodies of text to be legibly presented on small displays (Lee et.al. 2002). Current research is investigating RSVP technology as a possible means of displaying documents on devices with small displays such as mobile phones or PDAs (Brenard et al., 2005). Figure2.33 illustrates some kinds of kinetic typography at work; two different versions of the same words. Each expresses a different emotional tone.

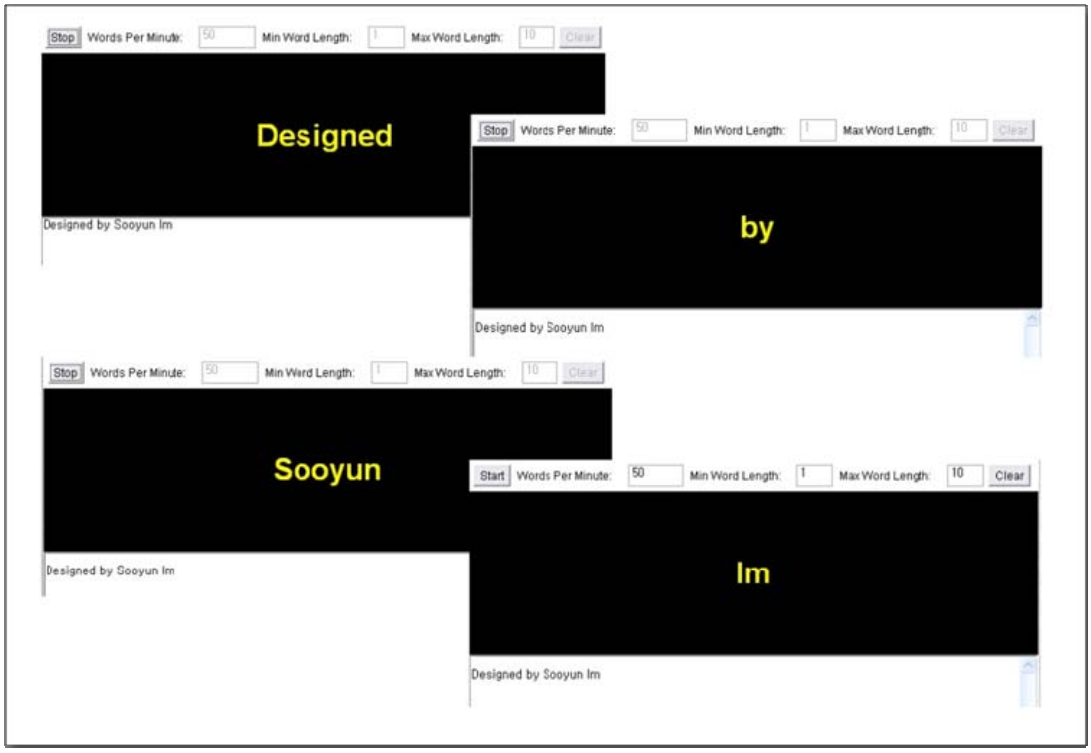


Figure 2.32 RSVP method

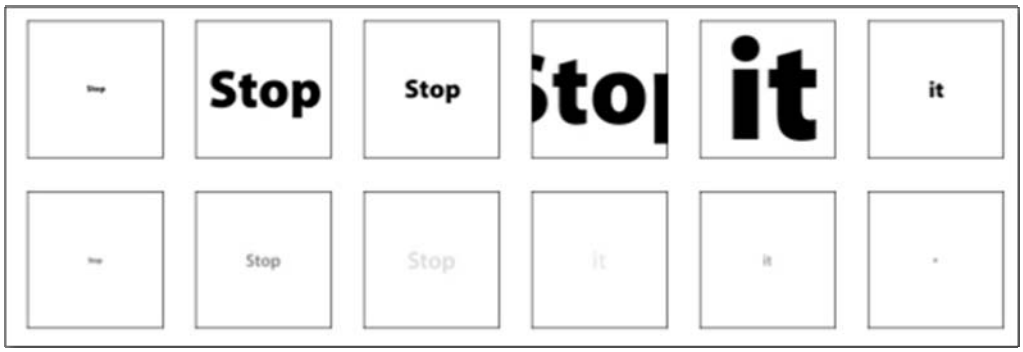


Figure 2.33 Expressing different emotional tones for the same text (Lee et al., 2006)

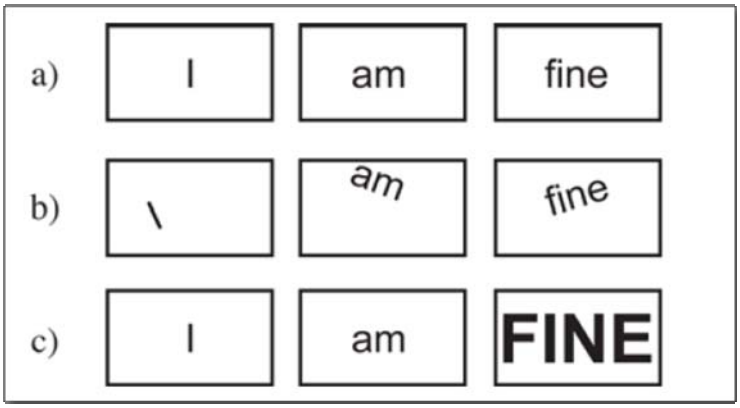


Figure 2.34 Expressing different emotional tones for the same text (Bodine & Pignol, 2003)

In Figure 2.33, the example above, we can see Lee's assertion (2006) that the choice of "bolding, pacing, and size change helps describe the sense of the loud, urgent voice of a speaker" (p.42). In the bottom example, the combination of slow, decelerating pace, and reduction of typeface weight portray the, "tone of a calmer utterance" (p.42). Bodine & Pignol (2003) also demonstrate this principle, as we can see in Figure 2.34 which shows, "how the same phrase can be interpreted differently based on the kinetic presentation of text." Bodine & Pignol (2003) continue to explain how Example 'a' is fairly vague because the tone of voice or emotional content is not represented. This is a neutral presentation of the text; it could mean many things. In examples 'b' and 'c' Bodine & Pignol (2003) note that in example 'b' the, "rotation and position of the text could

indicate a positive and lighthearted mood," and in 'c' "the size and capitalization of the last word could indicate a feeling of mania, anger, or annoyance" (p. 914).

It now seems likely that Kinetic typography's great potential as a communication tool can be applied to enhance mobile phone text messaging, and text messaging has become one of the major communication tools among young people.

2. The elements of Kinetic typography

This part presents the fundamental categories of kinetic typography. The primary components of kinetic typography's elements are analyzed in three parts: typography, space and time.

2-1.Typography.

1) Meaning

Woolman and Bellantoni (2000) have described language is a "flexible system" (p.32). Letters have no meaning until they are brought together into words. According to him, "a word is a sequence of symbols to which meaning is applied," and "in most cases a word does not look like the idea it represents" (p. 32). The spoken word transmits a sound that produces a mental image in the mind of the listener (Figure 2.35). When they see a text-based sequence, different people may envision the image differently. For instance (Figure 2.35), the word cell phone implies an image which may or may not be the same as someone else's image. However, an image of a cell phone on the screen, is the same cell phone image for everyone who sees it.

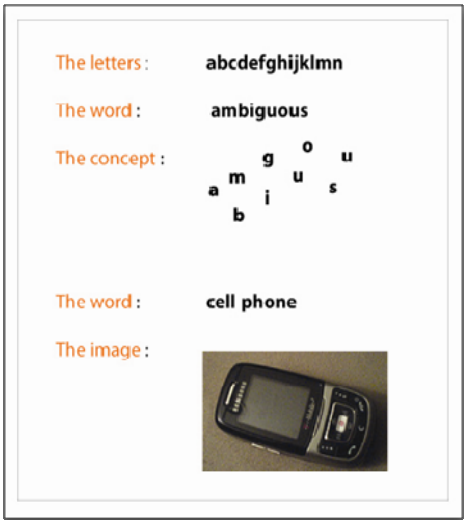


Figure 2.35 Verbal languages

Animated text can clarify these differences in interpretation, according to Woolman, because, “intonation or modulation of voice,” can be represented by the motion of the text.” (2004. p.40). Figure2.36 is a reproduction of Woolman’s example of ways to accomplish vocal intonation by animating the text.

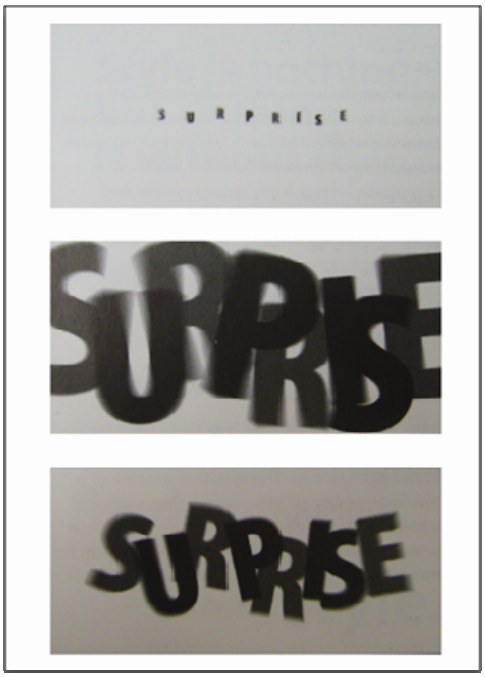


Figure 2.36 Visual intonation (Woolman, 2004. p.41)

2) Characteristics

The various unique characteristics of typefaces, “can be used sequentially to bring attention to the meaning of a word, phrase, or sentence” (Woolman and Bellantoni, 2000. p. 34). They can be used to create visual hierarchy or formal variation, or, “to emphasize the voice of the speaker in a situation where dialog is being read, or spoken” (Woolman & Bellantoni, 2000. p. 34)

a) Case

Case is an important clue to the meaning of a sentence. Choosing different type cases can bring a variety of expressive compositions to kinetic typography. Uppercase letters give “emphasis and importance to a word,” and lowercase letters provide, “recognizable and distinct word shapes because of the variety of letter shape, ascenders, and descenders” (Woolman, 2004. p.36)

b) Typeface

The visual character of a typeface can give a word a particular personality. Type is categorized into two large categories, serif and sans-serif. Serifs might be described as extensions, protrusions, or more elegantly put, finishing strokes extending from the ends of a character (Strizver, 2006). Old style, transitional, modern and slab or Square serifs are common categories of serif. Sans serif from the French word for “without” is without serifs. These were some of the first styles to be cut in stone and they have had periodic returns to popularity due to their simplicity as well as their somewhat industrial look (Strizver, 2006).

c) Weight

Another aspect of letterforms that is important to the interpretation of a word or phrase is weight of the letter. The thickness of the stroke ratio to the height determines the weight of letter (Woolman, 2004).

The blackness, or heaviness is its weight. Figure2.37 shows different weights in kinetic typography.

Figure2.37 weight

Each of different weights of text can display different meaning and impressions. For instance, the light weight can create cheerful, fluttering and delicate impressions and bold text can create heavy, fat and angry expressions. The weight can convey the personality and emotional impact; this influences to the audience.

d)Width

Width is another consideration in typographic composition; it can refer to the span of a word, or more often, to the letterform itself. The width of letterform is proportionally related to its height (Woolman, 2004).

Figure 2.38 Width

Figure2.38 shows the different widths. Normally, we describe these widths as condensed, regular, and extended. There is no standardization of weights and widths in typography. Its relative relationship depends on the design of a specific typeface. The normal width is the most dependable and comfortably mingles with other texts; condensed or extended widths of text bring extreme contrasts of expression that create the desired impact of message; ultra condensed or condensed text portrays a squeezed, cramped or screaming expression, while extended text relates a more luxurious and relaxed feeling.

3) Form

Sometimes a typographic element functions as an abstract form or image. Displaying type as a form utilizes the letterform's unique characteristics and abstract appeal. When a typeface uses form as image, it no longer reads as a letterform because it has been manipulated by distortion, texture, and enlargement; it may also have been extruded dimensionally. Following examples of different letter forms are selected from Woolman & Bellatoni's (2000) perspectives on letter for display (p.46,47).

a) distortion: crop

b) distortion: blur, fraction

c) distortion: fraction

e) distortion: specialty

e) elaboration: extension

f) elaboration: repetition

g) elaboration: subtraction

h) extruded

As Woolman & Bellatoni (2000) demonstrate in Figure2.39 a,b,c, “distorting letterforms through blurring, fracturing, and cropping can result in active compositions,” (p.36). Elaboration can be an effective tool for creating visual hierarchy or emphasis. Elaboration can include “repetition of words, enclosure, outline, subtraction and extension of the letter forms” (Figure 2.39 g,f,h) (p.37).

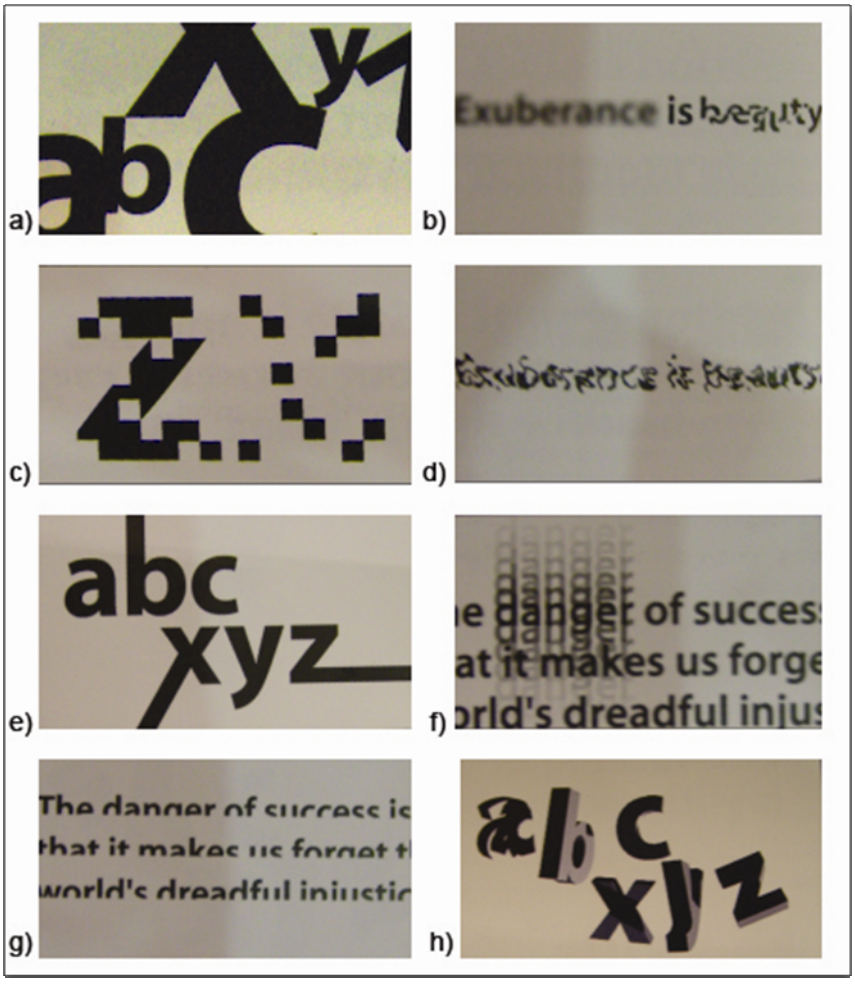


Figure 2.39 Distortions, elaborations, extrusions.
(Woolman & Bellantoni, 2000. p.36, 37)

4) Color

Color, of course, is an element that can add considerable meaning and life to kinetic typography.

> Color is the visible portion of the light wave spectrum. Whether it comes directly from a light source, such as a yellow flame, or it is reflected from an object, such as a red stop sign, our perception of color is subjective. If you asked a group of people to picture something blue, each one would visualize a slightly different color, yet if you showed the entire group all the colors visualized, they would probably agree that all the colors they imagined would fall into the category blue (Woolman, 2004. p.42)

It is common practice to represent color information on a color wheel. This allows us to compare colors and understand how they relate to one another. Figure 2.40 shows the color wheel system. This is based on the three primary hues of red, blue, and yellow, as shown in the basic color wheel.

> The secondary hues in this system are orange, green, and violet. The color wheel also shows six third system hues, formed by mixing equal amount of a primary hue and an adjacent secondary hue. A mixture of equal amounts of the three primary hues will form brown. This system is based on mixing color pigment (Woolman, 2004. p.42) .

Figure 2.41 shows the relationship between color and type. Woolman (2004) cautions his readers that color and narrow stroke width can both cause legibility and readability issues.

> The attributes of a particular color can also pose legibility problems, particularly when the contrast between background and type is too subtle or too strong (p.45).

> Typefaces with very thin strokes or narrow width, or of a very small size, create reading difficulties on the screen. Extreme color contrasts, which further impede legibility, should be avoided” (p.45).

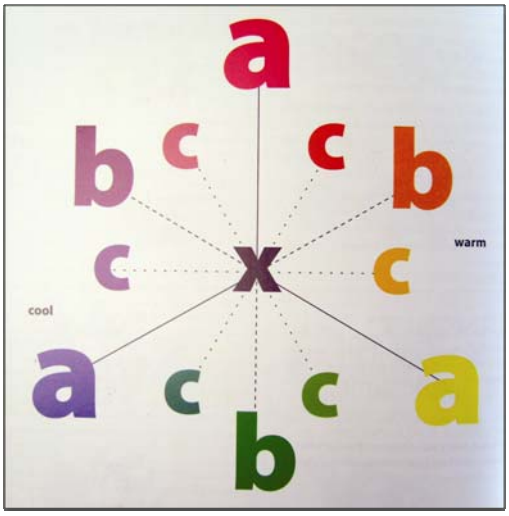


Figure 2.40 The color Wheel (Woolman & Bellantoni, 2000. p.28)

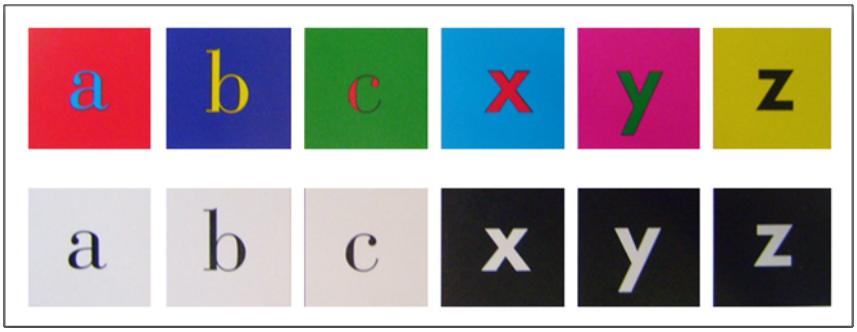


Figure.2.41 Color and type (Woolman, 2004. p.45)

5) Visual punctuation

The use of lines, symbols, and shapes which are the components of visual punctuation can actively interact with words and letters in dynamic ways. These elements can create "visual hierarchy, rhythmic patterns of movement, visual focal points…suggest direction and define typographic space" (Woolman & Bellatoni, 2000. p.40). Figure 2.42 shows the use of shape. Shapes can imply meaning, "the bubbling up of circular forms," to provide contrast for the white type, and enhance the impact of the message (Woolman & Bellatoni, 2000. p.40).

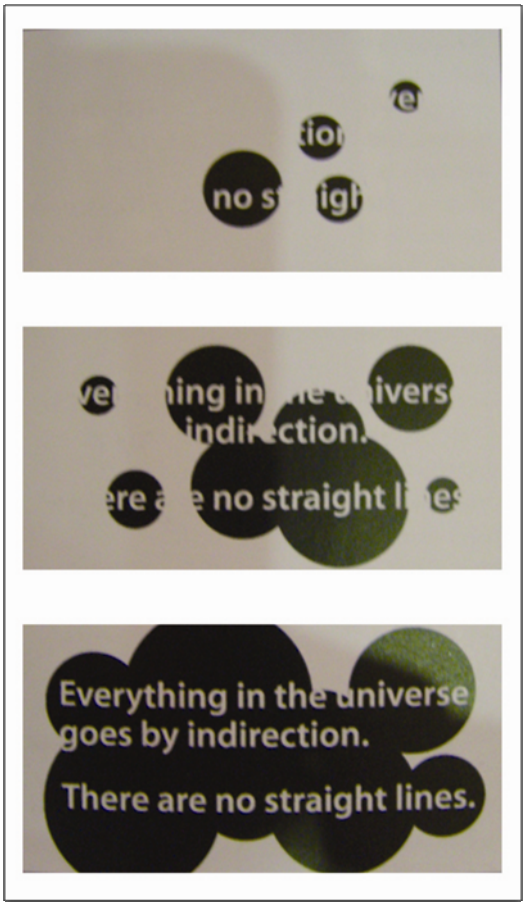


Figure 2.42 Visual punctuation (Woolman & Bellantoni, 2000. p.41)

2-2.Space

According to Woolman (2004), space is defined by two aspects: “structure and frame” (2004, p. 14). Structure covers the elements: points, lines, planes, volume and perspective. Frame addresses, “aspect ratios of screens, frame orientation, and composition and the internal aspects of ground, depth and mask” (p. 14).

1)Structure

The Space can be flat or deep, and can be viewed from a two dimensional or three-dimensional perspective. In two dimensional space, a spatial structure includes four

elements which are point, line, plane and volume. These elements also appear in kinetic typography. By definition, “point” indicates:

> …position in space and occurs at each end of a single line.A point can also be found where lines intersect, and where lines meet at the corner of a plane (Woolman, 2004. P. 16).

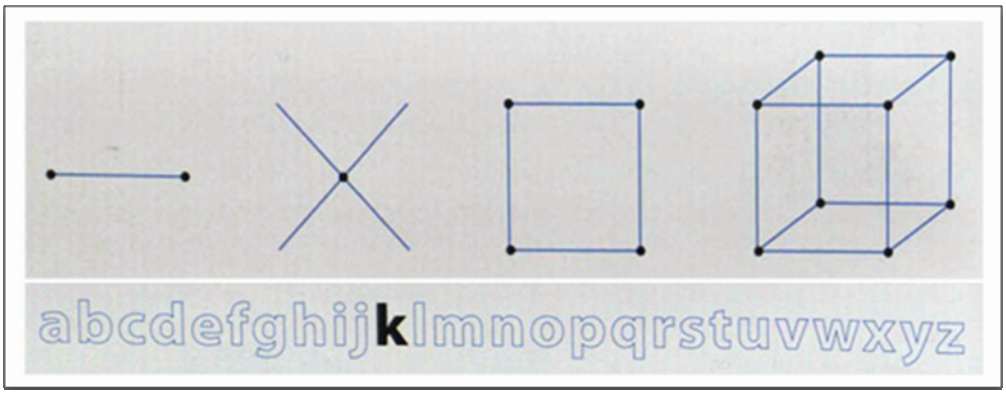


Figure2.43 Point (Wooman & Benetoni 2000 p.18)

Similarly, A line (Figure2.44) is formed by points and creates a path that has a direction as well as position. A line forms a dynamic space construction, which is a space (Woolman, 2004).

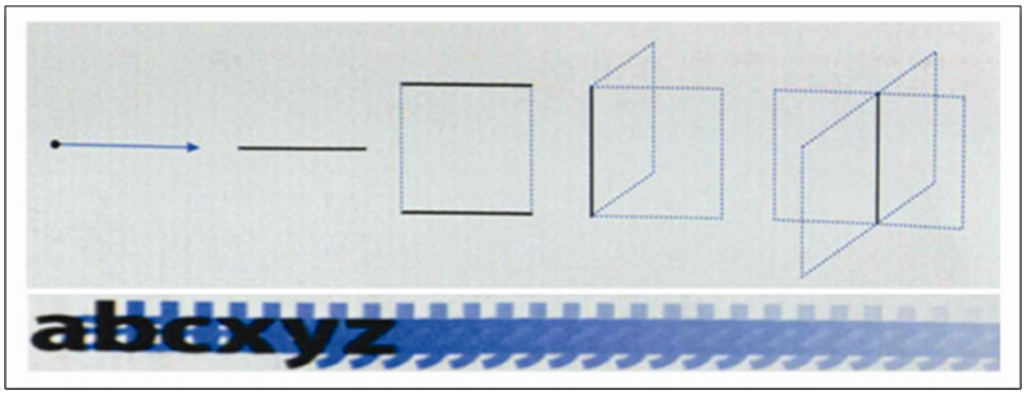


Figure 2.44 Line (Wooman & Benetoni 2000, p.18)

A plane, then, (Figure2.45) is “defined by at lest one line. A plane, bound by lines, defines the external limits of a volume” (Woolman, 2004. p. 16).A plane has length and width, but does not have depth.

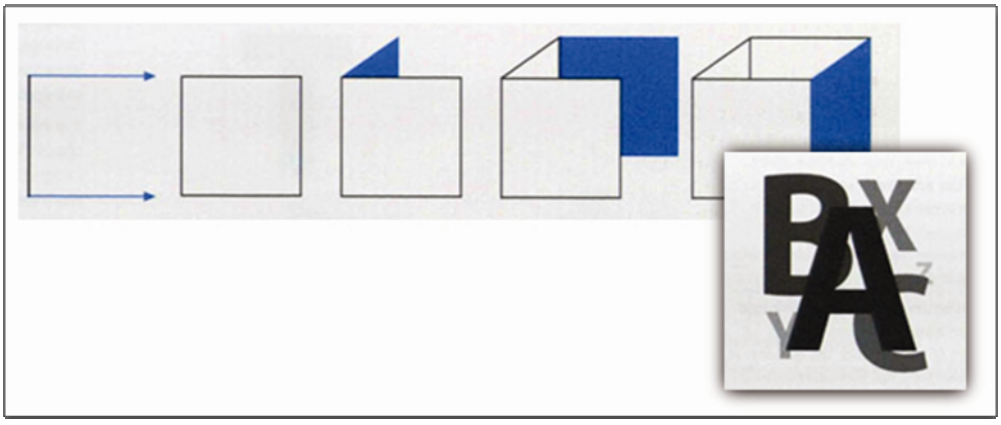


Figure 2.45 plane (Wooman & Benetoni 2000, p.19)

A volume has width, length, and depth. (Figure2.46) It is created by the moving path of a plane through space or the enclosure of space. Volume, is expressed in cubic units; a volume gives the illusion of contained space or depth.

Figue 2.46 volume. (Wooman & Benetoni 2000 p.19)

Point, line, plane and volume are conceptually tied to both the structure and composition of visual forms (image and text) and narrative sequences. Woolman and

Bellatoni (2000) use the graph in Figure 2.47 to demonstrate how the elements of dimensionality relate to narrative sequence and also to film production.

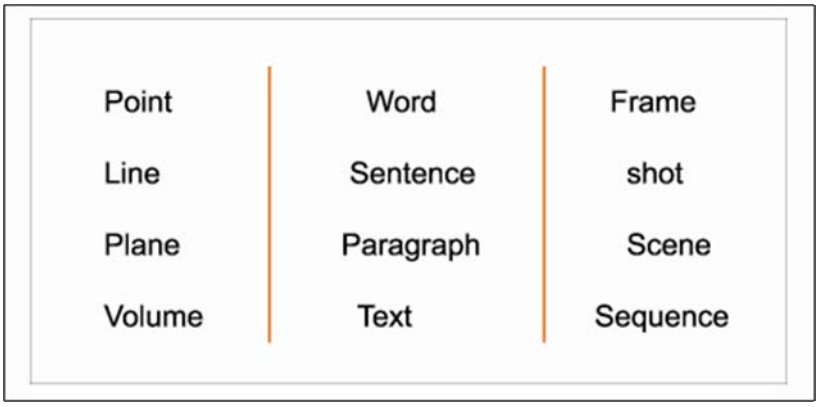


Figure2.47 point, line, plane and volume

Perspective is an artist's tool that creates the illusion of three dimensional depth on a two dimensional surface. This illusory space produces an environment in which position, direction and interval can exist (Woolman & Bellatoni, 2000). Woolman and Bellantoni(2000) continue to describe one, two and three point perspective. To summarize their description, we might begin with one point perspective.

One point perspective (Figure 2.48 a) is a linear perspective that imitates the way the human eye sees objects. Objects that are closer appear larger in size while objects that are further away appear smaller in size which establishes a single vanishing point on the horizon line. Two- point perspective (Figure 2.48b) assumes a vantage point opposite the edge of an object and creates an angular position that shows depth and establishes two vanishing points in the same horizontal line. Three-point perspective (Figure 2.48c) creates a third view point looking up or down from two vanishing points. It deals with a tall object where the edges of the object recede to two vanishing points.

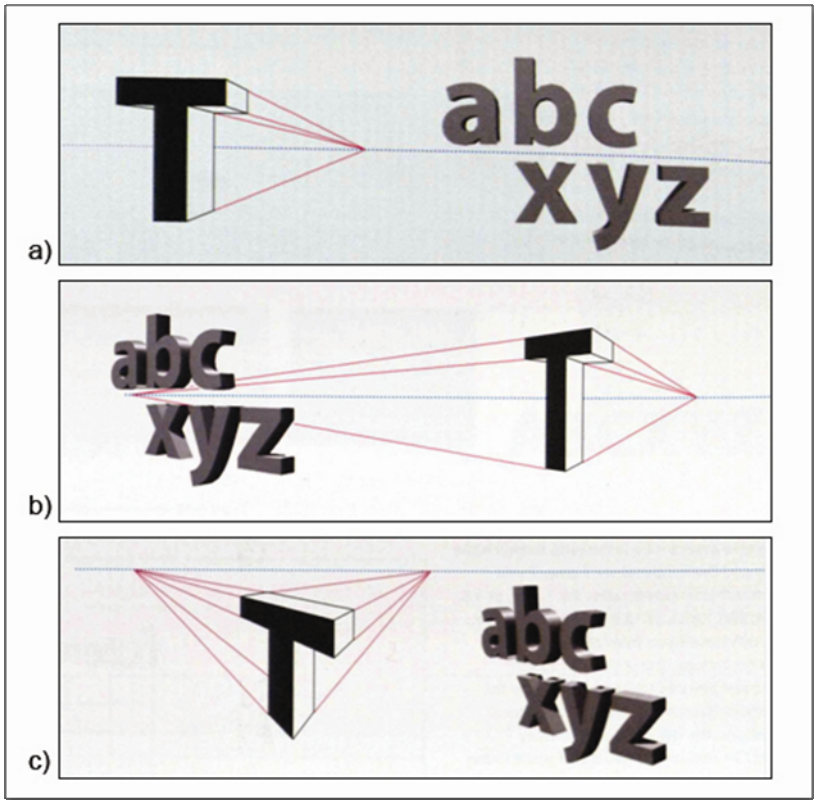


Figure 2.48 perspectives (Woolman & Bellantoni 2000, p.20, 21)

2) Frame

Frame is a term that is uses to describe a unit on a time-based media. In a time-based kinetic typography environment, frame refers to an “active composition space in relation to the screen”(Woolman, 2004. p. 18).

> The frame in film refers to both the image on the film and the dimensions of the projected screen; in video, it refers to video monitor itself, and in digital media, the rectangular bounding area that confines the sequence is the frame (Woolman, 2004. p. 18).

A series of small changes across a number of different frames creates the illusion of motion. Within a frame, the actual workspace for an object, referred to as the ground or stage, is the compositionally active zone. The compositional design actually appears to move into, across, and out of the frame. Objects are displayed only within a framed

ground. The frame has an aspect ratio that is a product of the relationship between the width and the height of the frame. Figure2.49 shows how the frame works in a horizontally extended ratio. This format, “can be used to emphasize distance, because we tend to see a horizontal rectangle as a landscape”(Woolman & Bellantoni, 2000. p. 22). A vertically-oriented sequence (Figure2.50) can support the concept of “height or falling” (Woolman & Bellantoni, 2000. p. 22).

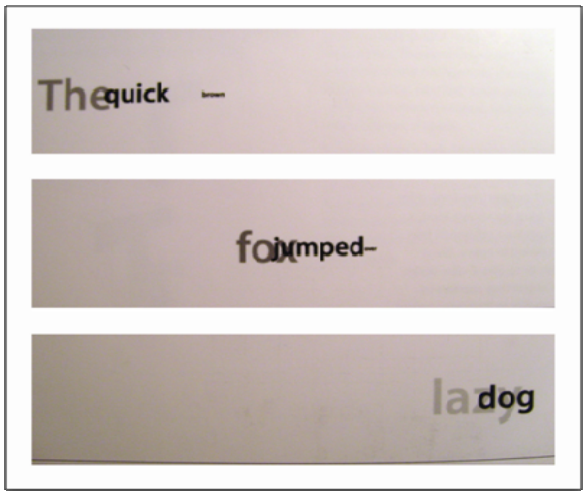


Figure 2.49 Horizontally extended (Woolman & Bellantoni, 2000. p.22)

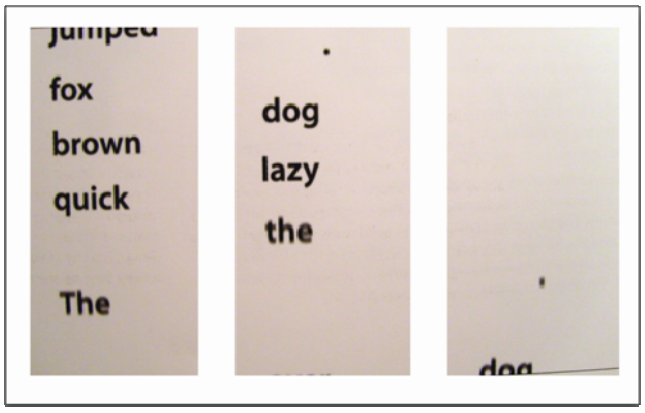


Figure 2.50 Vertically extened (Woolman & Bellantoni, 2000. p.22)

2-3 Time

Woolman(2004) has described time an, " the primary component that differentiates static from sequential, or dynamic, graphic design"(p. 46). Time is discussed as of two parts motion and sequence.

1) Motion

Motion refers to events that take place inside the frame. The presence of the frame makes the sense of motion possible.

> Characteristics of motion include dynamics, direction, orientation, rotation, proximity, grouping, layering and transformation (Woolman,2004. p. 46).

a) Direction, orientation, rotation

In traditional static typography, direction is the orientation of letterforms, the way that the letters are to be read. In kinetic typography, the literal definition of movement is also added. Direction is the course or line of the movement of type; "orientation is the directional position of the baseline of the type. Direction or orientation can be "horizontal, vertical, diagonal, curved, circular, advancing or receding" (Woolman &Bellantoni, 2000. p.46). Woolman's and Bellantoni's example of the various aspects of orientation and direction are demonstrated in Figure 2.51; the actual aspects are:

a) direction: horizontal - orientation: horizontal

b) direction: circular orientation – circular

c) direction: vertical orientation – horizontal

d) direction: advancing

e) direction: vertical - orientation: vertical

f) direction: advancing, receding

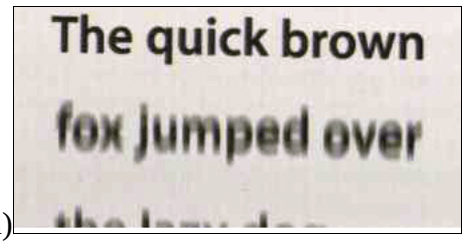
g) direction: diagonal - orientation: diagonal

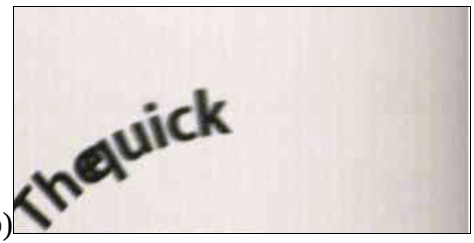
Rotation is movement around an anchor point, the center of the rotation. Figure one also shows the examples of rotations;

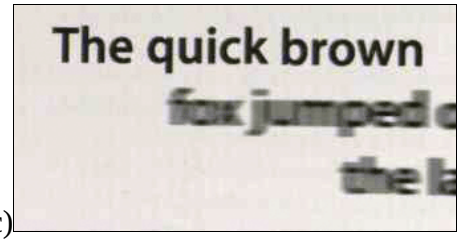
h) rotation: flat, anchor point changes

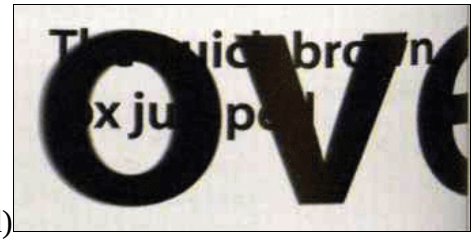
i) rotation: horizontal axis

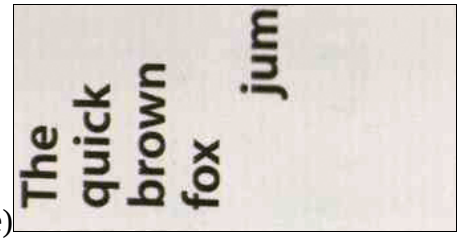
j) rotation: random (2000, p. 46).

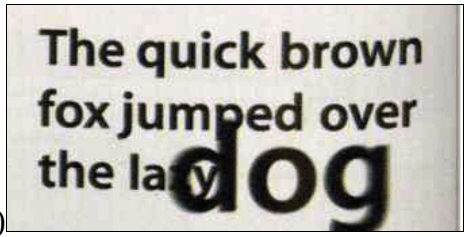
a) 

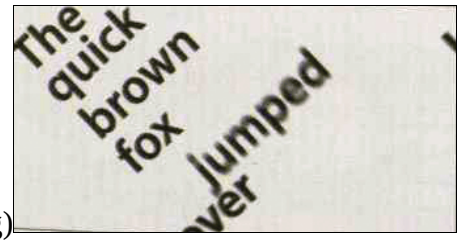
b) 

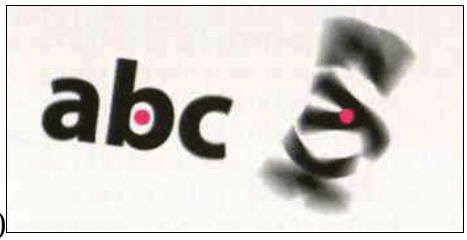
c) 

d) 

e) 

f) 

g) 

h) 

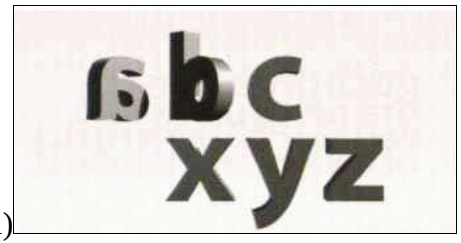
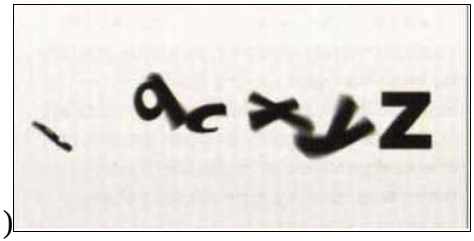
i)  j) 

Figure 2.51 Direction, orientation, rotation (Woolman and Bellantoni, 2000. p.46)

b) Layering

Layering creates different levels of depth; layers may be opaque, translucent or transparent. Opaque (Figure 2.52a) means that the top layer covers completely and blocks the layer below. Translucency (Figure 2.52b) is when at least the top layer is partially transparent allowing some light to pass through; the layer below is, therefore, somewhat visible through the layer above. (Figure 2.52c) represents layered elements that appear hollow, making the layer below fully visible through the transparent upper layer.

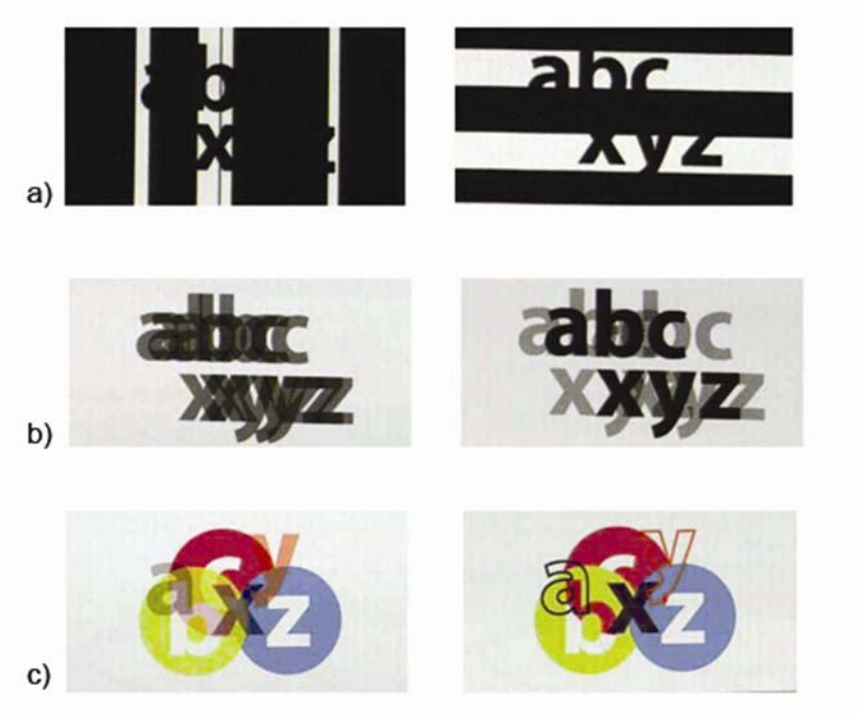


Figure2.52 layering (Woolman and Bellnation, 2000. p.52)

2) Sequence

Sequence refers to the relationship of scene to scene in order to create a narrative. It is a matter of what comes first, and what comes next. The “characteristics of sequence include structure, hierarchy, transition, rhythm/pace, duration/pause.” (Woolman, 2004. p. 46)

a) Structure

Structure is the framework used to organize the content. The structure differs with the media. In film or broadcast typography, the typography has a linear structure (Figure2.53) which has a beginning, a middle and an end. With interactive media, such as websites, it has a nonlinear structure and multi-linear content delivery which allows the audience to make choices about how to navigate the site (Woolman, 2004).

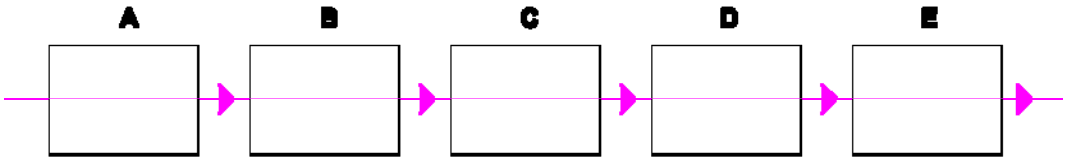


Figure2.53 linear structure.

b)Hierarchy

Hierarchy defines the relative importance of forms in a design. One can trace the hierarchy by noticing what is seen first, second, and so forth in sequence. Naturally, hierarchy contributes to both structure and sequence:

> it can be “type, image or audio dominant. The dominant element is the main message and the other two elements support the main element to enhance and improve the meaning of the message” (Woolman, 2004. p. 56).

In Figure 2.54 a) we see Woolman's example of the contrast between an image dominant hierarchy compared to b) a type dominant hierarchy.

Figure 2.54 Hierarchy (Woolman, 2004. p.64)

c) Transition

In narrative sequence, transitions are used to establish narrative sequence and emphasize content. In kinetic typography transition signals the audience that the word or phrase is changing. Transitions could include cuts, fade-in, fade-out, dissolves, wipes, rotations, zoom-in, zoom-out and blur (Woolman, 2004).

d) Rhythm/pace

Rhythm is movement that repeats itself regularly and pace is the rate of that rhythm.

Visual rhythm is created by sequences of beats and tempos, which are generated by the duration of strong and weak patterns of movement over time. Woolman (2004) notes that combining different sequences and rhythms can create dramatic effects and emphasize the message.

e) Duration/pause

Duration is the length of time between the appearance of a form and its disappearance. Naturally, duration applies equally well to actions and sounds which also begin at some point and then end. Something appears and remains within the frame, moving or static, and then ceases. Pause is related to duration, it is literally the duration of an absence of a form or an action. Pause, then, refers to the length of time between the appearances of an item. Duration and pause create the rhythm and pace of the sequence. If we recall that duration is the amount of time that an object is visible within the frame, then it follows that different actions may have different durations within a frame. Pause is a visual break or temporary stop between durations. The appropriate use of duration and pause can improve the meaning and effect of the content, emphasize particular objects and create hierarchy.

CHAPTER 3. DEVELOPMENT OF A PROTOTYPE

A. Initial survey

1. Survey

Before creating the visual prototype and kinetic text messages, an the initial survey was conducted to find out which text messages young people use most.

The purpose of the survey was to gather information about mobile phone text message usages and needs. The survey gathered information about the number of people who use a mobile phone, the age of their phone devices, what kind of text message plan they use, and the most common text messages. The last point, the most common sentences used in text messages among users was the point of greatest interest. Based on the findings from the initial survey, the text messages were selected and the kinetic text messages were created.

Participants were recruited for the initial survey through required courses at university. A total of 50 subjects participated; they were volunteers. The survey was intended exclusively for text messages users. Twenty four (24) females and twenty six (26) males (Figure3.1) participated, ranging in age from eighteen (18) to twenty six (26) (Figure3.2)

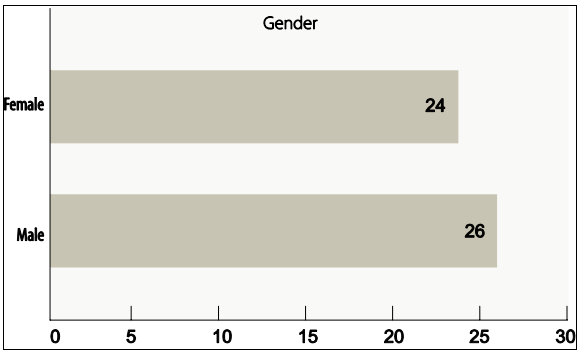


Figure3.1 Gender

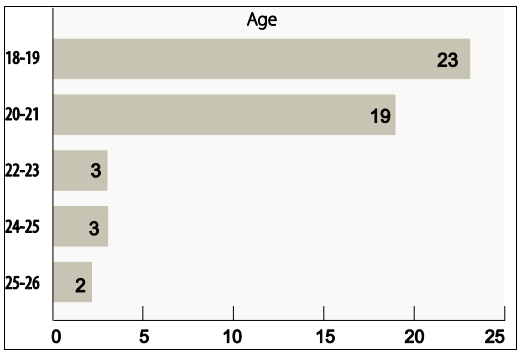


Figure3.2 Age

Since the most frequent users of text messaging are teenagers and young adults, I choose to survey students in the first and second year courses which meant that most of subjects were freshman and sophomores (Figure3.3) Therefore, most of my users are sill teenagers aged 18 or 19 (Figure3.4).

Participant's major language was English. (Figure3.4)

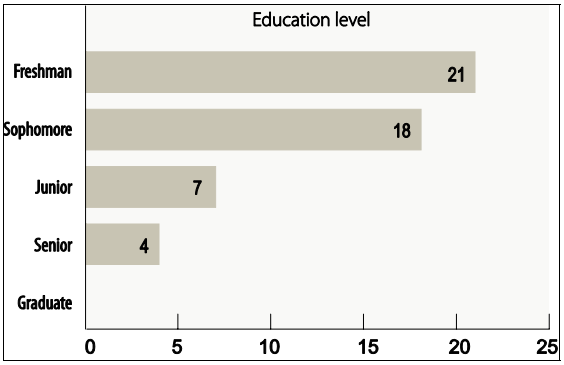


Figure 3.3 Education level

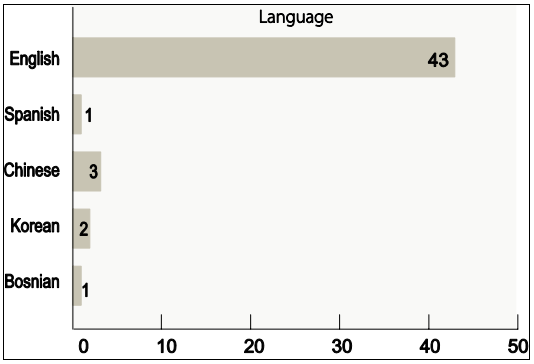


figure 3.4 Language

Forty-seven participants out of 50 have used mobile phones for more than 3 years (Figure3.4) However their phone device was, on the average, relatively new. As the graph below shows, the age of the mobile phone device, for 24 participants out 50 is are less than a year old (Figure3.5). The majority of participants own newest and most advanced phone models. This indicates a tendency to upgrade to the most advanced technology.

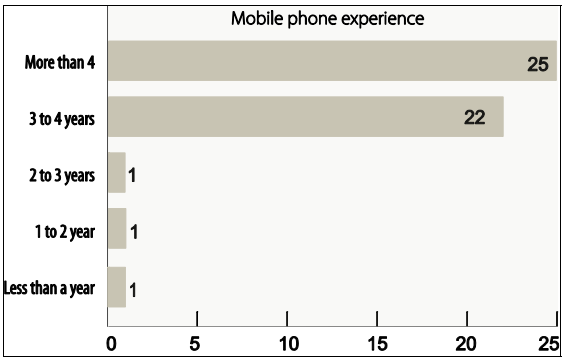


Figure 3.5 Mobile phone experience

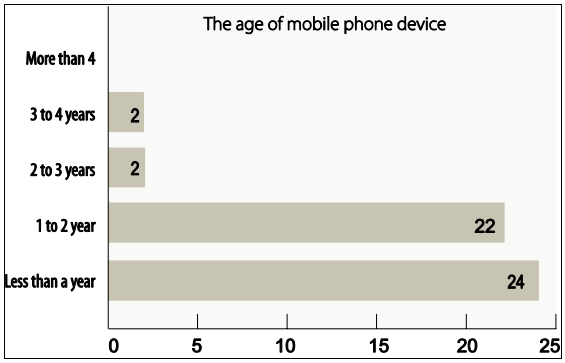


Figure 3.6 The age of mobile phone device

Based on the chart below,(figure3.8) it would also appear that the participants use text messaging a lot. Twenty subjects have unlimited text message service plans and only 3 subjects don't use any additional text message plan (figure3.7)

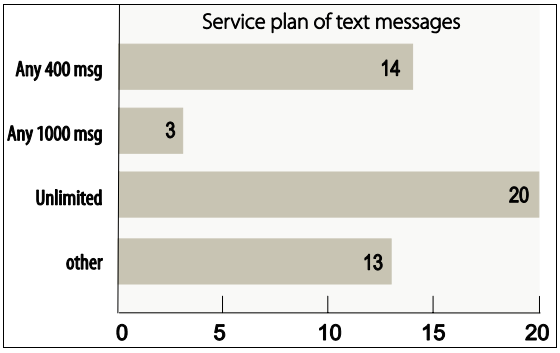


Figure3.7 Service plan of text messages

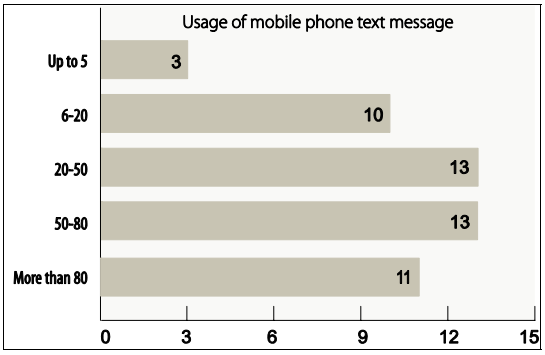


Figure 3.8 The usage of text message

Figure 3.10 shows the usage of abbreviations. We can see from this data, that most of the participants use shortened words and phrases when the text. Eighteen subjects answered that they use abbreviations frequently and only 2 subjects never use the abbreviations. Therefore abbreviation would appear to be appropriate to the prototype design.

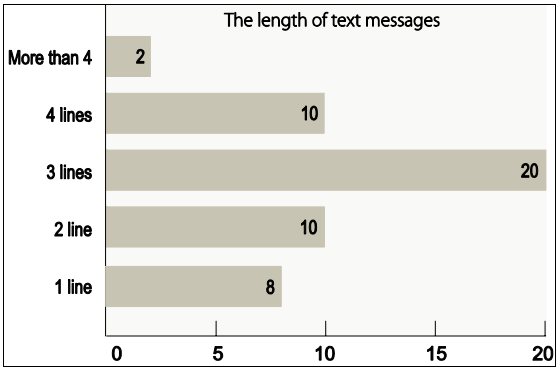


Figure 3.9 The length of text message

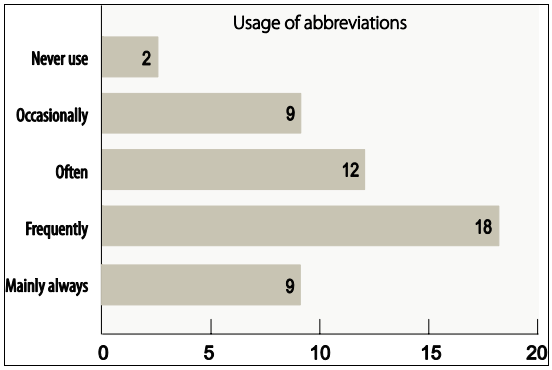


Figure 3.10 The usage of abbreviations.

2. Finding of Communication orientations in text messages

The main interest of the initial survey was to find out the most common sentences used in text massages among young users. The participants were asked to suggest common text messages for 3 different audiences; for friends, for a significant others, and for parents. The data for each audience was then analyzed and categorized.

In looking at the initial survey results for frequency of text messages, I identified the primary functional orientations of each messages. Based on the survey, individual messages were assigned to 3 broad categories : coordinating activities (meeting up) friendship maintenance, and romantic orientations.

1) Orientation: Coordinating activities

Messages in this category dealt with plans to meet, arrangement of meeting times and places, coordination of life events, scheduling recreational activities such as going out together for the evening, going to the cinema and other social arrangements, and dealing with unexpected changes in these plans. (Figure3.11)

2) Orientation: Friendship maintenance

Messages in this category dealt primarily with friendship maintenance behaviors such as apologies, words of support and thanks. As result, many of them were simple, greetings between friends. We can see the message “what’ up” is dominantly used among text users. (Figure3.12)

Coordinating and meeting up	No.
where r u going 2nite	3
what are you doing tonight?	9
What are you doing 2day?	1
Wanna get lunch?	4
Where are you?	10
Call me later	15
Ttyl	6
Just got done class	2
What's the plan for tonight	2
Wanna get dinner?	4
Smoke?	1
Want 2 to	1
Can't talk..in class.	9
Movie tonight?	3
Wanna go to the bar?	3
Come over here	2
C ya soon/later	4
Can u Pick me up	4
Can I go w/ u?	1
Need ride?	1
Who u w/?	1
Rec?	1
U coming over tonight?	1
What ur eta?	1
What u doing?	7
What do you need?	3
Feed me	1
I will call you later	4
Do u Wanna eat w/me?	13
Wanna do smoothing?	1
What are you doing this weekend?	1
I am studying	1
Be home soon	1
R u in class?	1
Why did u call?	1
You at work?	1
What do you want for dinner?	1
Coming home this weekend	1

Figure 3.11 Coordinating and meeting up orientation

Friendship maintenance	No.
What's up?	26
Hey	3
How's your day going?	1
how are ya?	5
what's going on?	5
What's fam doing?	1
Hello	2
How was your day?,	1
How is it going?	2
Sorry I missed ur call.	1
Sup bitch?	1
Wtf	2
haha	4
lol	4
lul	1
hahahahahah…that is funny	1
sounds good	2
:)	1
Great	1
L8ter	1
I don't know	3
No	4
Yes	4
o.k	4
yeah	2
whateva	1
Happy b day	2
Have a good day	2
Have a goodnight	7

Figure 3.12 Friendship maintenance orientation

3) Orientation: Romantic

This category is usually more than the maintenance of friendship. Messages in this category dealt primarily with romantic expressions of love, intimacy and affections for the significant others. Figure 1 lists and ranks the most common messages for significant others. Based on the survey data, the messages: “I love ya” and “I miss ya” are the most frequent messages used/needed by the participants (Figure3.13)

Romantic orientation	No.
I love you	15
I miss you	9
can’t wait to c u	5
love me	1
Muah	4
snooch	1
Kisses	3
Thinking of u	1
BRB	1
I <3 u	3
Will you marry me?	1
U r sweet	1
U r awesome	1
hug	1
u r special	1
Hey babe	3
Bye babe	1
Hey hun	1
U r So cute!!!	2

Figure 3.13 Romantic orientation.

B. Development of kinetic text messages as a prototype.

1. Idea developments.

The two highest ranked (most popular) text messages for each category were selected for development as kinetic text message designs. The design was rendered in Flash 8. In the development of the design, the designer tried to support the message concept development with the elements of kinetic typography. Based on the findings from the initial survey, the six most common text messages were selected for development as kinetic text messages. The six text messages selected for development were:

1. *Call me later*
2. *What's up?*
3. *Do you wanna eat w/ me?*
4. *I miss ya*
5. *I love ya*
6. *Have a good nite*

Each message was defined as a different tone of voice. Various kinetic typographic effects were applied to each text message to deliver its unique conceptual message.

Tone of voice reflects psychological state, arousal, emotion, and mood. It may also carry social information, such as in a sarcastic, superior, or submissive manner of speaking. Word or letters sometimes have more or less emphasis in a phrase or sentence; in the design process, this emphasis was communicated through the hierarchy

of the text message design. Emphasis was, therefore, represented with larger size, more repetition, and changes in tempo**.**

Voice is a key instrument in delivery. Different kinetic effects can signify differences in the tone of voice. In the beginning of the design process, the designer developed a series of rough sketches.This process explored the narrative potential of various form relationships, time sequences, and kinetic effects, before the actual kinetic text messages were generated.

Figure 3**.**14 Rough sketches

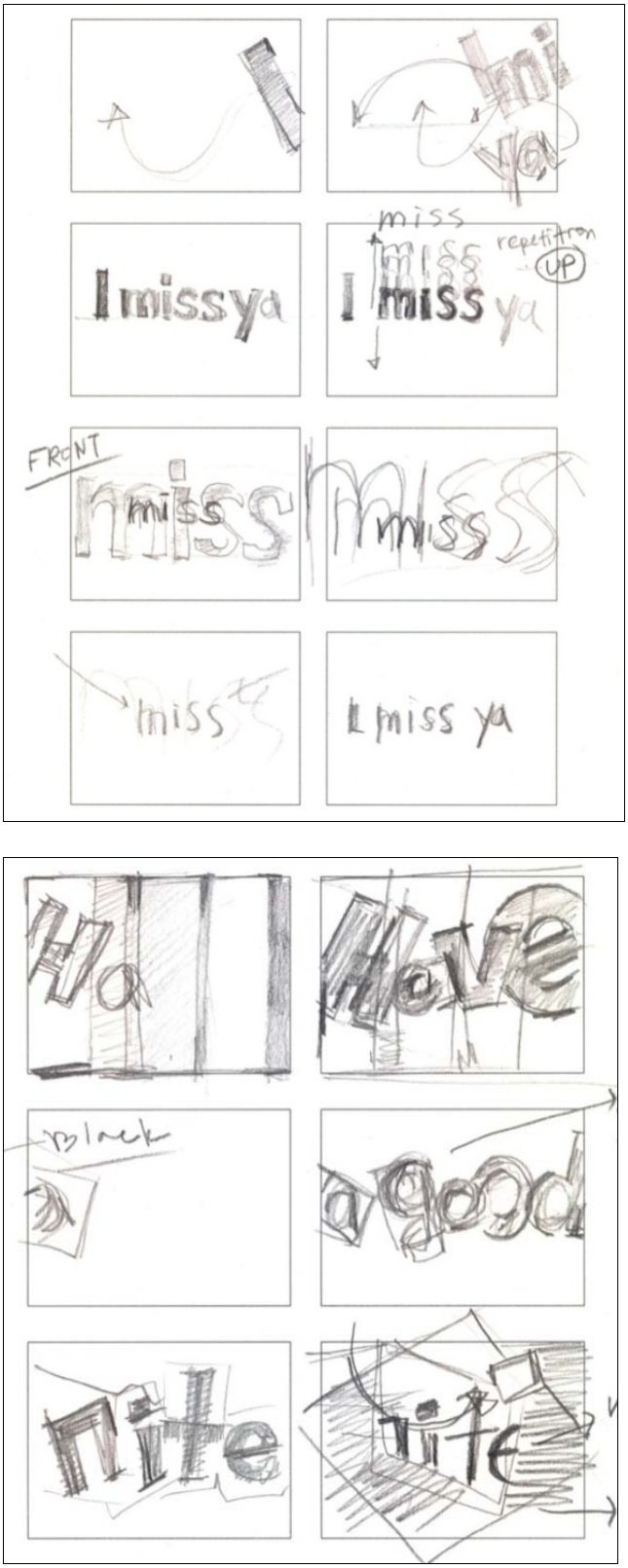


Figure 3.15 Rough sketches

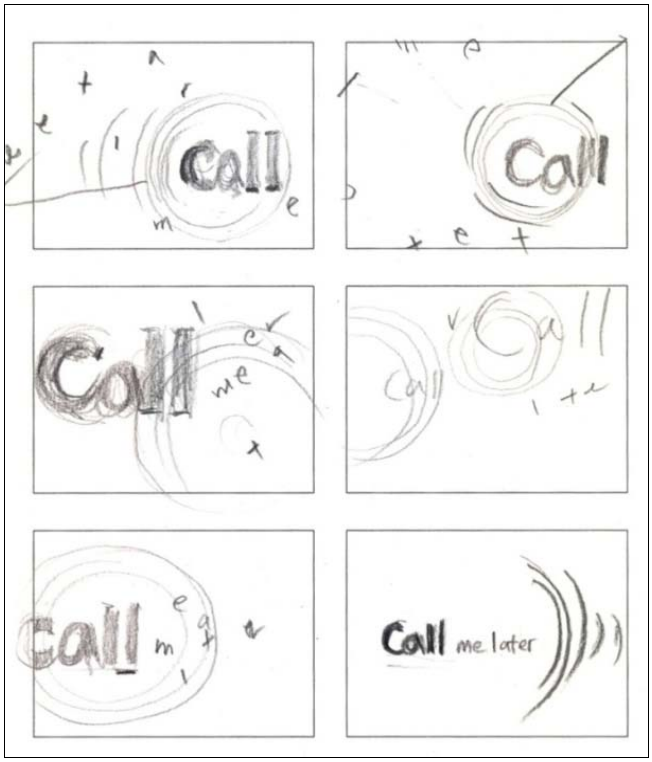


Figure 3.16 Rough sketches

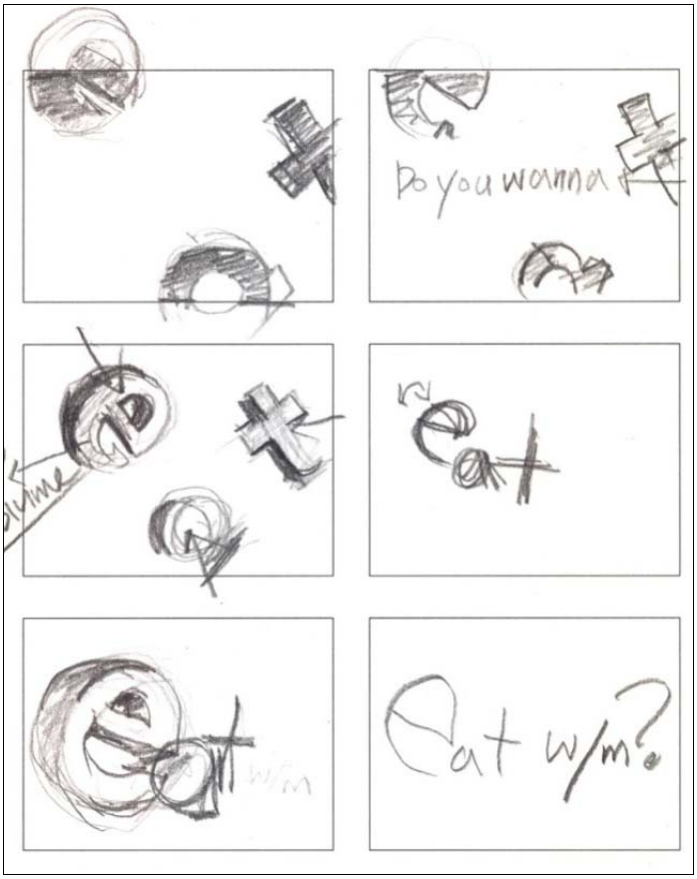


Figure 3.17 Rough sketches

2. Designing the kinetic text messages

2-1. Kinetic text message *"what's up?"*

a) Design concept

What's up is the most frequently used text message between friends. The tone of voice in "what's up?" has a jocular and teasing tone to a friend. Individuals tend to develop signature ways to vocalize this expression. This tendency has carried over into text messaging. Individuals try to add emphasis or unique sounds within the words, such as "Whazzz up?" One of goals was to bring some of this expressiveness into the kinetic text message through the use of motion and tempo.

b) Design development

We have seen in the review of the literature that particular characteristics of type can be altered to bring attention to the meaning and emotional connotation of a word, phrase or sentence. In this case I wanted the message to have a jocular or teasing tone. Therefore, for the design, *"what's up,"* I created a bouncy rotation of letters and the upbeat tempo, the bold text implies a storing direct voice, such as one would use to address a friend. To achieve visual hierarchy for the word *"up"*, the scale of word *"up"* is altered upward form small to large. Large and small are relative to each other and are most noticeable in sequence, when the change of scale occurs over. Changes in size and weight of text can suggest a sudden increase in vocal volume the way people commonly speak this phrase. The rapid appearance of the word *"what's"* produces a sense of uncertainty; this creates the feeling of a question. Next the successive appearance layering of the word *"what's"* eventually create momentary a black screen to highlight the letters "u" and "p"

In developing kinetic text designs, determining factors for print hierarchy –small to large, color, and position are joined by the additional determinates of fast and slow or advancing and receding. In the *"what's up,"* text message design, the main kinetic effects are achieved through the use of advancing and receding text. When the word *"up"* advances, it initiates a rotation with a blur transition effect to emphasize the speaker's tone of voice *"up"*.

c) Overall design key frames

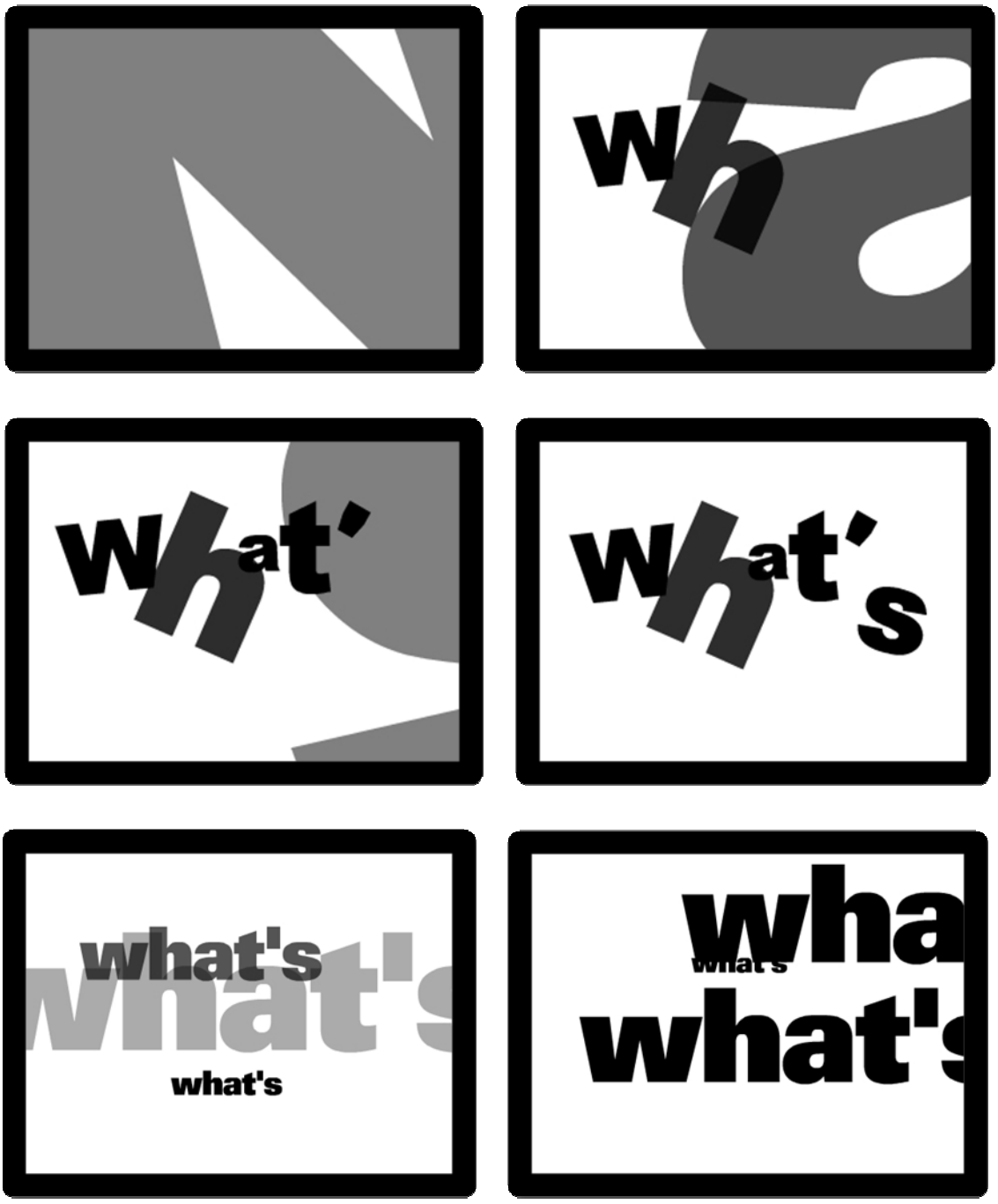


Figure 3.18 Kinetic text message "*what's up?*"

Figure 3.19 Kinetic text message "*what's up?*"

Figure 3.20 Kinetic text message "*what's up?*"

2-2. Kinetic text message *"I miss ya"*

a) Design concept

The message *"I miss ya"* is commonly used between both friends and significant others; somebody who should be there is not. In this design, the shortened word *"ya"* was used instead of *"you"* because of the findings from the initial survey. The majority of text message users used *"miss ya"* or *"I miss ya"* instead of "*I miss you."* The *"ya,"* is perhaps more similar to the way this word is used in the less formal spoken language. The language of the text message, therefore, is a curious mix of spoken and written

language. In the *"I miss ya,"* message, the tone of voice and emotion are mild, warm, and when spoken to a significant other, it is romantic.

b) Design development

As noted in literature review, elaboration of letters can be an effective method for creating visual hierarchy and emphasis. In the *"I miss ya"* animation, repetition of letterforms is the main principle used to produce the kinetic design. This can be a powerful method of enhancing the meaning of the message *"missing"*. A subtle palette of pastel pink and orange color can in low contrast represents the passion of the romantic expression of absence.

The visual rhythmic beat occurs when the repetitions of a word "*miss"* occur in a consistent manner, and then break the pattern. This element of unexpected gives a feeling of a situation which is not as it should be someone who should be there is not.

The upward direction of the repetition *"miss"* represents the absence and eventually loss of the person missed. The overlapping of the repetitive *"miss"* creates the spatial sense of depth on the screen which represents the emotion depth of the feeling represented.

A series of pauses in the motion of the text contributes to the feeling of distance and undesired absence.

c) Overall design key frames

Figure 3.21 Kinetic text message "*I miss ya*"

Figure 3.22 Kinetic text message "*I miss ya*"

2-3. Kinetic text message –*"call me later"*

a) Design concept

The message "*call me later"* was frequently used among texters when they could not answer the phone either because they were in the class or because they were otherwise occupied. This message expresses a lack of contact, as though reaching for someone who is just out of arm's reach. The tone of voice is inviting and resonant, *"call me."* In speaking, people tend to emphasize the call to create an inviting sound. The tone of voice in this message is clear and inviting.

b) Design development

Visual punctuation creates effective a representation of the desired call of visual communication for the viewer. In the *"call me later"* design, the circular lines are used to provide a playful rhythmic pattern of movement which establishes the visual hierarchy. This circular line also can be interpreted as the sound and radio waves of the call. These circular lines are closely associated with the appearances of the word *"call"*.

To express the clear tone of voice, the word call is displayed on the screen with bold type. The joyful tone of voice is represented by the letters in the words **"***me later***"** which move and rotate randomly in light weight type. The green color gives the welcoming and inviting feeling of message.

The motion of the circular patterns is radial and expanding. Circles appear in succession as though echoing, and as the outward radiation reaches the outermost points of its expansion, the circles surrounding one, *"call,"* begin to intersect those radiating from another, *"call."* This gives us a feeling of contact between two people.

c) Overall design key frame

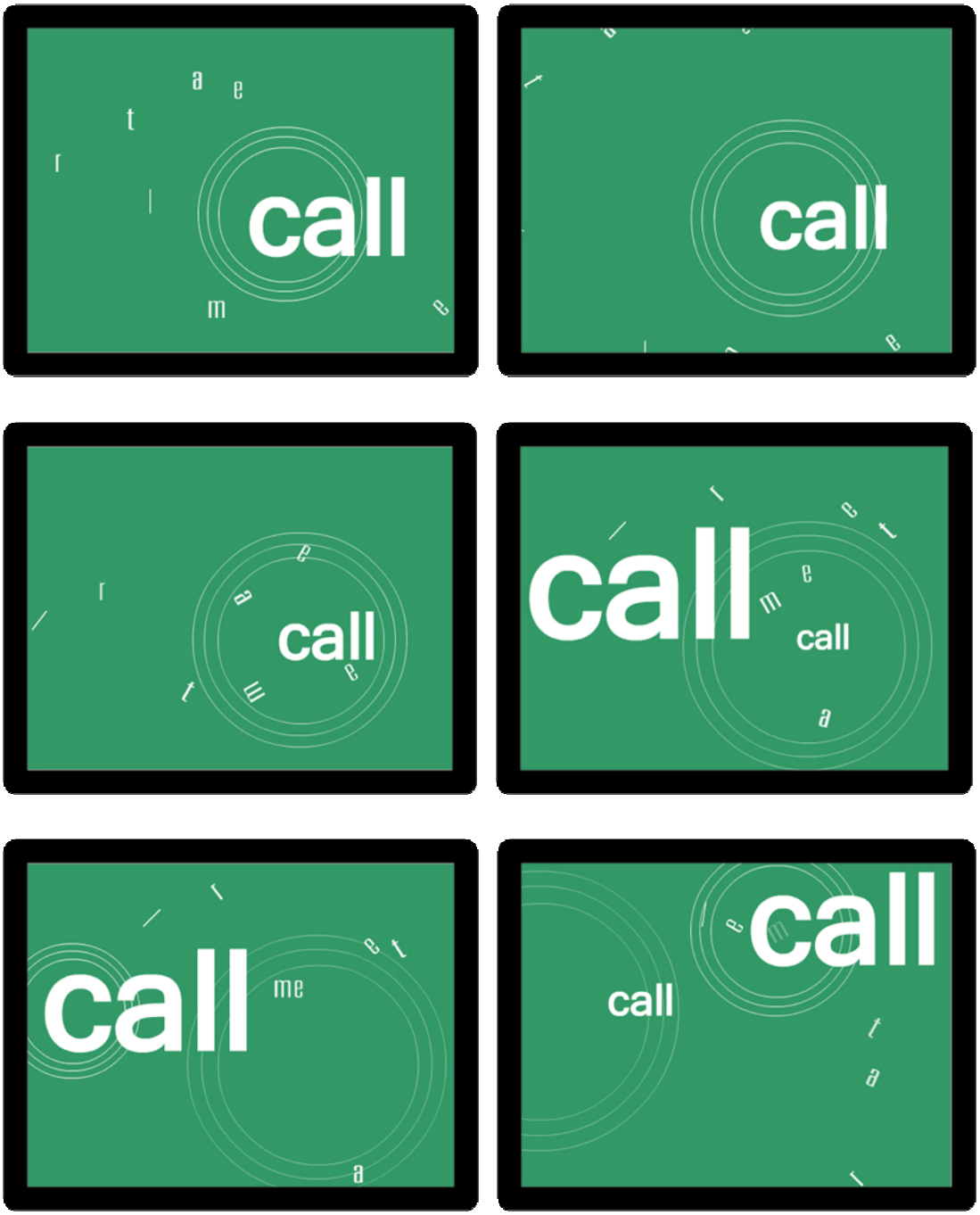


Figure 3.23 Kinetic text message "*call me later*"

Figure 3.24 Kinetic text message "*call me later*"

2-3 . Kinetic text message *"I love ya"*

a) Design concept

This message is most frequently used among significant others. In the findings from the initial survey, no one used the full sentence "*I love you*" to a significant other, although some young user use the complete sentence *"I miss you"* they apparently do not use the message, *"I love you."* It may be that the use of the phrase, *"I Love Ya"* as a way to avoid having to vocalize the real, more committed sounding phrase, *"I Love You."* Perhaps this is natural since most of those surveyed are still teenagers. Therefore, in this

message, *"I love ya"* became the phrase of choice over, *"I love you."* The tone of voice in this message is loving, sensitive and respectful.

b) Design development

In considering type, "Edwadian Script ITC" was chosen as the most appropriate typeface because its slender graceful forms express the meaning of love with delicacy and sensitivity. The type's distinctive organic structure portrays the romantic feeling. Showing one spot of red color is a classic presentation of *"love"*. The single isolated instance of this color represents the uniqueness of the loved one. The contrast of red to the black background represents the passion of love and also the red shape as a focal point in the last frame represents the focus on the loved one as special to the sender.

By applying slower pace and clear adherence to the text baseline movement, the message achieves more than respectful, calm tone. In addition, the words appear in the same locations on the screen to make it easy to follow the text and to give a comfortable and stable feeling. The sequential movement is left to right which the direction in the English language reads. A fade-out and blur transition is used to differentiate words visually since all the words are the same color and size.

c) Overall design key frames

Figure 3.25 Kinetic text message "*I love ya*"

Figure 3.26 Kinetic text message "*I love ya*"

2-5. Kinetic text message *"Do you wanna eat w/ me?"*

a) Design concept

The kinetic message is used among friends, although it could conceivably be used by significant others as well. Again, based on the initial survey, some qualities of the spoken language have been incorporated, *"wanna,"* and also, a characteristic abbreviation of text message practice, *"w/me."* The tone of voice is active, excited, and perhaps hungry. The message is a call to get up, go out, and do something. The message must represent this need for action visually.

b) Design development

The volume of the letters creates an illusory sense of depth and gravity. In the *"do you wanna eat w/ me?* Design, 3 dimensional letters are used to emphasize and represent the word *"eat"* and the bright colors of the three dimensional letters give this message an active feeling. By giving color only to the letters in the word, "eat," the design calls attention to the most important part of the message.

The word *"eat"* contrasts with the other words in this message design in that rotational and individual movement is assigned only to the letters, "*E-A-T,*" the others move as blocks and in a straight line. The motion of the message starts with the words "Do *you wanna*" which enters and moves horizontally from left to right. Next, the sentence "*Do you wanna'* disappears on the screen, and three letters "e" "a" "t" rotate into full view. The "*E-A-T,*" letters move individually; each individual letter enters from outside the frame with a diagonal and rotational motion. This gives the sense of activity and a playful feeling of this message like the activity of going out. As seen in an earlier chapter, certain formal attributes give words heightened meaning and emotion. These

formal attributes can strongly influence the affective qualities of kinetic typography. In the case of the word, "*eat*," the design used small, shaking, large expanding, and vibrating movements applied to the word "*eat*" in order to enhance the feeling of excitement and activity in the message.

c. Overall design key frames

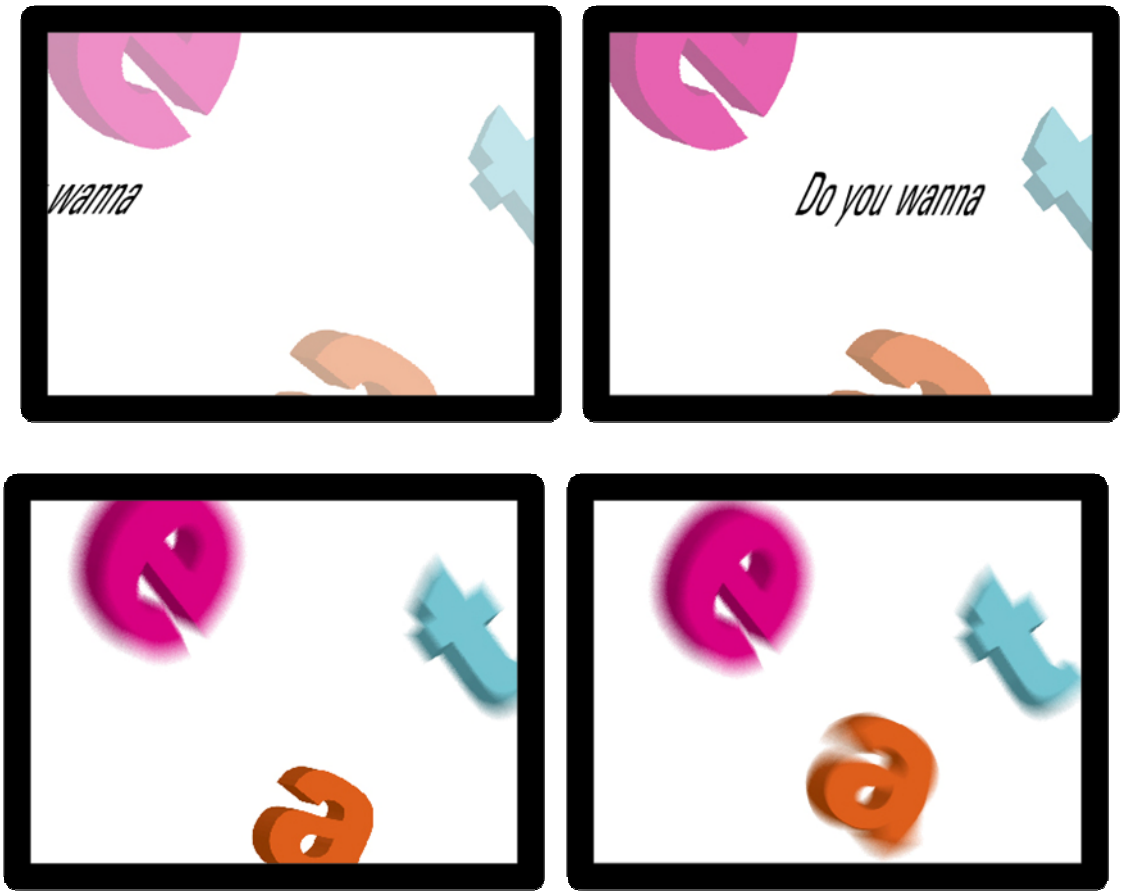


Figure 3.27 Kinetic text message "*Do you wanna eat w/ me***?**"

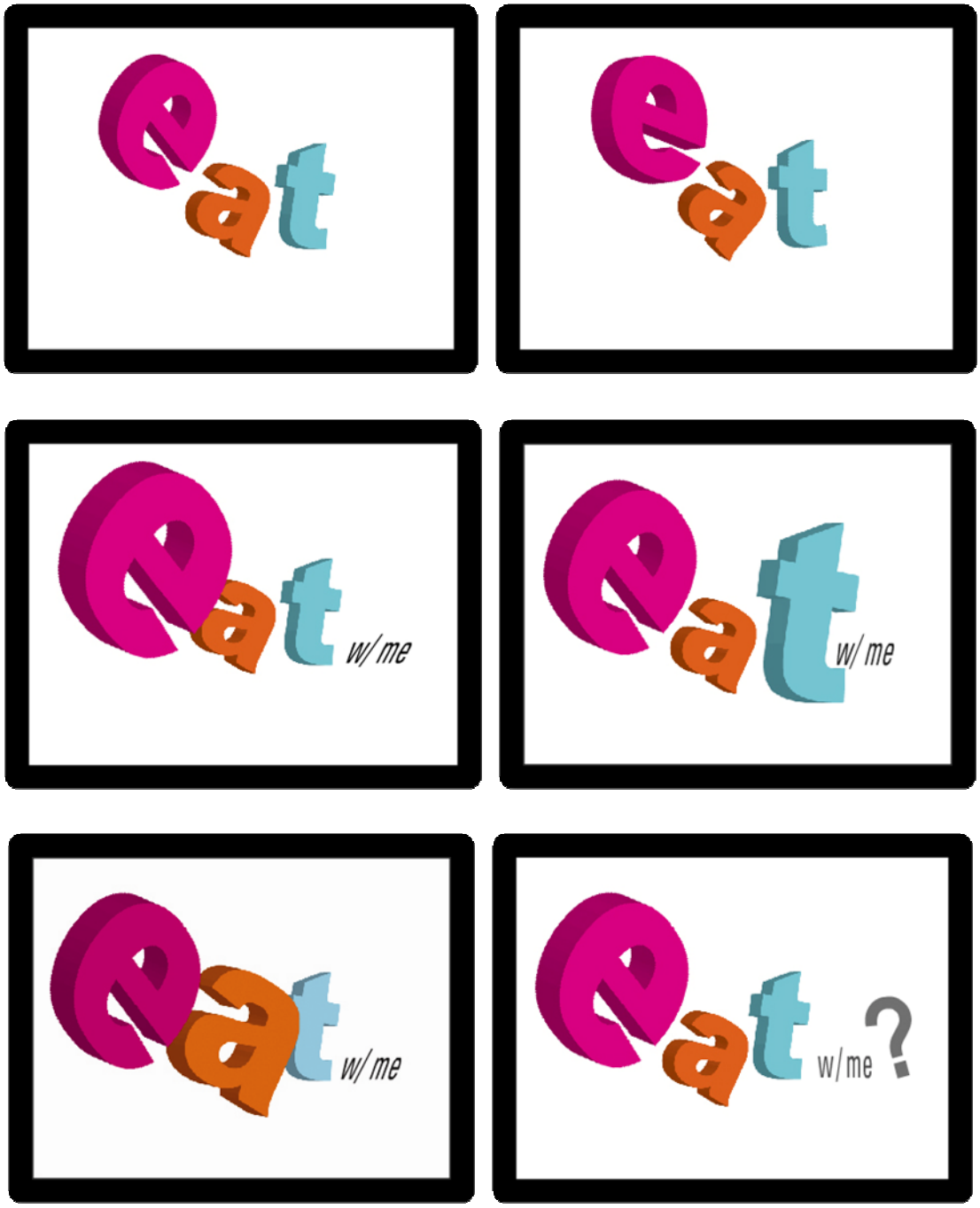


Figure 3.28 Kinetic text message "*Do you wanna eat w/ me***?**"

2-6. Kinetic text message *"Have a good nite"*

a) Design concept

The text message, "*Have a good nite*," is most commonly used among friends. Seven of ten respondents in the initial survey used, "*nite*," in describing their text message, therefore the abbreviated form was used in preparing the prototype. The tone of voice in this message is calm and cheerful. One must also note that this message is commonly used late in the evening. Life has slowed down; the activities of the day are nearly complete. The nature of this message is to wish someone a peaceful end of the day. Still, the message has a warm friendly tone.

b) Design development

The mix of different typefaces set in squares as negative space letterforms, produces a greeting which is both cheerful, expressing good wishes, and still appropriate to night time. The cheerful tone of the goodnight message is visualized through the use of various colors. At the same time, the color maintains a low color saturation to express the nighttime greeting. The slow rhythmic motion of the text is reminiscent the slowing pace of life in the late evening, and produces a feeling of calmness.

The vertical bars cross back and forth, covering the words transparently creating a muted disappearance. This motion pattern might represent tucking someone into bed and turning out the light. The letters of the word, "*hava a good*," move individually, while the word, "*nite*," appears on the screen as a block, which makes it easy to read and understand. This is more important because the word is abbreviated. The mask effect, at the end, shows the close of the day, the darkening of the space, and says, "*Good night*."

c) Overall design key frames

Figure 3.29 Kinetic text message "*Have a good nite*"

Figure 3.30 Kinetic text message "*Have a good nite*"

C. Evaluations of the prototype- *follow up survey*

1. Test environment and equipment.

The visual prototype was a simulation created on the computer screen. This was necessary because the technology to insert the kinetic text designs into a real mobile phone was not available. The visual prototype was a realistic representation of a current model mobile phone (Figure 3.30). The screen size and parameters were identical to what one would find on a current model mobile phone. Because the activities required of

participants were limited to viewing and providing opinions, this simulation should provide accurate data.

Participants were solicited from college classes. For the most part, they ranged in age from late teens to early 20's, they were, all mobile phone users and educated. These participants viewed the proto type viewed individually on screen and then completed a survey. Participants were asked to record their reactions to the design by means of a series of survey questions. They were asked to rate their responses to each question: strongly agree, agree, disagree, or strongly disagree.

Figure 3.30 Screen shot of a prototype

2. Results of each prototype

a. “call me later”

Figure 3.31 design 1 “*call me later”*

N=30

		Excellent	*Good*	*Fair*	*Poor*
1	How would you rate this prototype?	11	18	1	
		Strongly agree	*Agree*	*Disagree*	*Strongly disagree*
2	This prototype is useful	6	23	1	
3	The colors for the text messages are appropriate.	7	22	1	
4	The type is readable and easy to understand	14	14	2	
5	The type size is appropriate for the mobile phone display screen.	10	18		
		Yes		No	
6	Would you use the design in the future?.	**26**		4	

Table 3.1 Result

26 participants out of 30 answered that they would like to use this design in the future.

Here are a few of the comments and suggestions from the participants

1) More contrast would be better “call” and background
2) Me later is lost, until the very end
3) Very creative
4) If the color is stronger, would be better
5) I thought it was good idea to show the word call there four times it emphasizes the text.
6) Me later could be a little larger

b. “do you wanna eat w/ me?”

Figure 3.30 design2-“*Do you wanna eat w/ me?”*

N=30

		Excellent	*Good*	*Fair*	*Poor*
1	How would you rate this prototype?	5	17	8	
		Strongly agree	*Agree*	*Disagree*	*Strongly disagree*
2	This prototype is useful	2	27	1	
3	The colors for the text messages are appropriate.	2	17	11	
4	The type is readable and easy to understand	10	13	7	
5	The type size is appropriate for the mobile phone display screen.	5	17	8	
		Yes		No	
6	Would you use the design in the future?.	**21**		9	

Table 3.2 Result

21 participants out of 30 answered that they would like to use this design in the future.

Here are a few of the comments and suggestions from the participants

1) The only big words are “eat” and everything else is small.
2) Graphics are a little distracting.
3) Not sure about blue for eat
4) Eat seems a little overwhelming
5) *Do you wanna* disappears a bit quickly,
6) Since the whole text is divided by two parts, it is a bit vague to understand the text if we see that a bit later. however I thought it was creative that to emphasize the word eat
7) Eat seems to be cute , but it would be better if used different color

c. *"what's up?*

Figure 3.30 design3-"what's up?"

N=30

		Excellent	*Good*	*Fair*	*Poor*
1	How would you rate this prototype?	16	13	1	
		Strongly agree	*Agree*	*Disagree*	*Strongly disagree*
2	This prototype is useful	12	15	3	
3	The colors for the text messages are appropriate.	8	18	4	
4	The type is readable and easy to understand	11	15	4	
5	The type size is appropriate for the mobile phone display screen.	11	15	3	
		Yes		No	
6	Would you use the design in the future?.	27		3	

Table 3.3

27 participants out of 30 answered that they would like to use this design in the future.

Here are a few of the comments and suggestions from the participants

1) I really like this
2) This one shows an excitement. This is good.
3) Make me feel dizzy
4) I am not a fan of a lot of flashing words
5) I like the black and white aspect of the text
6) Could use color
7) It's fun

d. “I miss ya”

Figure 3.30 design4-“I miss ya”

N=30

		Excellent	*Good*	*Fair*	*Poor*
1	How would you rate this prototype?	9	16	5	
		Strongly agree	*Agree*	*Disagree*	*Strongly disagree*
2	This prototype is useful	9	19	2	
3	The colors for the text messages are appropriate.	16	10	4	
4	The type is readable and easy to understand	12	14	4	
5	The type size is appropriate for the mobile phone display screen.	13	17		
		Yes		No	
6	Would you use the design in the future?.	25		5	

Table 3.4

25participants out of 30 answered that they would like to use this design in the future.

Here are a few of the comments and suggestions from the participants

1) Hard to see
2) It seems like a little much for a text kind of hurt eyes
3) The colors and size are very good
4) I think this prototype would be a fun special feature on a phone.
5) A bit long
6) The color of the text is a bit light.

e. “Have a good nite”

Figure 3.30 design4-“Have a good nite”

N=30

		Excellent	*Good*	*Fair*	*Poor*
1	How would you rate this prototype?	6	18	6	
		Strongly agree	*Agree*	*Disagree*	*Strongly disagree*
2	This prototype is useful	11	17	2	
3	The colors for the text messages are appropriate.	12	12	6	
4	The type is readable and easy to understand	8	16	6	
5	The type size is appropriate for the mobile phone display screen.	9	18	3	
		Yes		No	
6	Would you use the design in the future?.	24		6	

Table 3.5 Result

24 participants out of 30 answered that they would like to use this design in the future.

Here are a few of the comments and suggestions from the participants

1) The colors are a little bright since the message is about the evening I would suggest using cooler (ie. Blue purple, green colors) .
2) It is too short time to show the text “nite”
3) Creative
4) Too dark.
5) Transparency color is kind of illegible it fades out too soon and never shown again.

f.“I love ya”

Figure 3.30 design4-“I love ya”

N=30

		Excellent	*Good*	*Fair*	*Poor*
1	How would you rate this prototype?	8	17	5	
		Strongly agree	*Agree*	*Disagree*	*Strongly disagree*
2	This prototype is useful	5	24	1	
3	The colors for the text messages are appropriate.	16	12	2	
4	The type is readable and easy to understand	11	17	2	
5	The type size is appropriate for the mobile phone display screen.	2	22	6	
		Yes		No	
6	Would you use the design in the future?.	26		4	

Table 3.6 Result

26 participants out of 4 that they would like to use this design in the future.

Here are a few of the comments and suggestions from the participants

1) The lettering could be bigger
2) Script I not readily recognizable on opening on the phone
3) I really liked the fact it is animated but the same message remained on the screen after- only smaller.
4) This is the most effective one
5) Like the simplicity
6) Too cheesy
7) Maybe to “I” love and you should come from the right side of the screen instead of the left.

3. Analysis of data

Q.The colors for the text messages are appropriate.

This question was designed to learn users preference regarding color. The greatest preference ratings were achieved by kinetic message designs four and six; the lowest rating was attributed to design 2 "*Do you wanna eat w/ me?*". This result indicates that users may prefer pastel colors and fewer colors. Users seemed to feel that too much color was overwhelming. Perhaps too much color is confusing for short messages on the small screen. Comments from users seem to support this conclusion.

		Strongly agree	*Agree*	*Disagree*	*Strongly disagree*
1	Call me later	7	22	1	
2	Do you wanna eat w/ me?	2	17	11	
3	What's up	8	18	4	
4	I miss ya	16	10	4	
5	Have a good nite	12	12	6	
6	I love ya	16	12	2	

Table 3.7 color

Q. The type is readable and easy to understand

This question is about the readability of text on a small screen. As seen in the results shown in Table3.9 (above) design two, "*Do you wanna eat with me*," and design five, "*Have a good nite*," received a number of negative votes. Participants disagree with the readability of these two messages. Neither of these designs have the whole sentence on screen at the same time. Instead, the animations of the text created for these two messages allowed first word or sentence to disappear before the remainder of the message appeared. This sequential approach to animated text did not show all sentence of at the same time, and seems problematic. This may have made it hard for the user to read and understand the message especially if the sentence is long. We can learn from the

result that readability may be enhanced if we repeat and recycle the sentence so that the whole sentence appears on screen at the same time. For example the design 1, "*call me later*," received high approval ratings and low disapproval ratings for readability. In this design, unlike designs 2 and 5, there is considerable repetition of the message. Even though individual letters "*me later*" moves fast and randomly all over. It gets the highest rank because the word, "*call,*" repeats many times each in each scene, and at the end, whole complete message was shown on screen.

		Strongly agree	*Agree*	*Disagree*	*Strongly disagree*
1	Call me later	14	14	2	
2	Do you wanna eat w/ me?	10	13	7	
3	What's up	11	15	4	
4	I miss ya	12	14	4	
5	Have a good nite	8	16	6	
6	I love ya	11	17	2	

Table 3.9 Readability

Q.The type size is appropriate for the mobile phone display screen.

With regard to type size, users preferred large type which fills a major part of the screen . Looking at the actual results, six people disagreed the type sizes on design 6, "*I love ya*," as well as design 2, "*Do you wanna eat w/ me*," Users commented that type in these two designs should be bigger.

		Strongly agree	*Agree*	*Disagree*	*Strongly disagree*
1	Call me later	10	18	2	
2	Do you wanna eat w/ me?	5	19	6	
3	What's up	11	15	4	
4	I miss ya	13	17	0	
5	Have a good nite	9	18	3	
6	I love ya	2	22	6	

Table 3.10 Type size

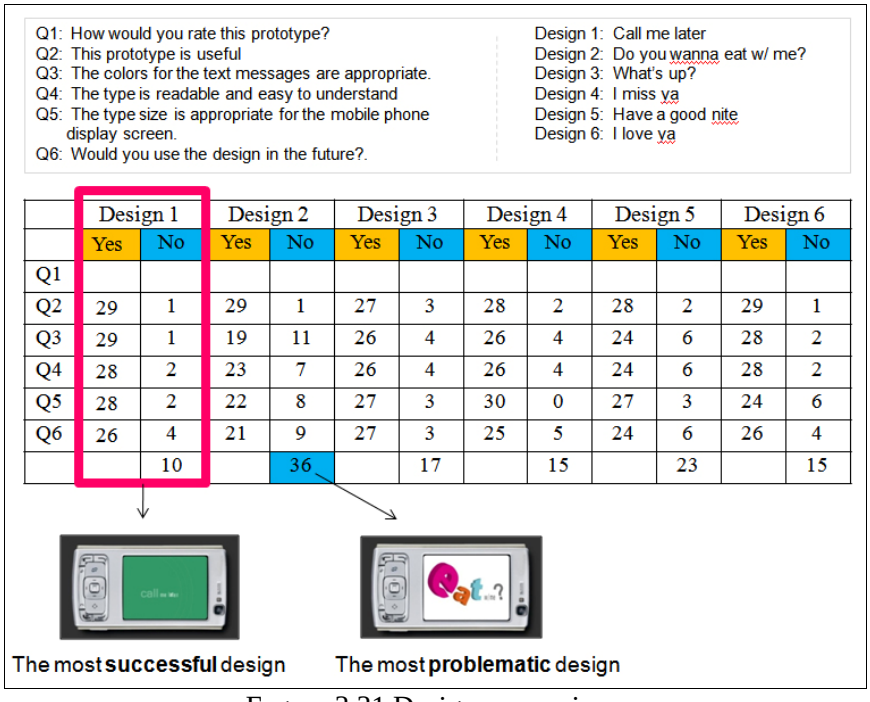
Q .Would you use the design in the future?

This question is to learn users' impressions of kinetic messages, whether or not they would be likely use this feature if it were available on their mobile phones. This question was intended to estimate the potential usage and popularity of kinetic text messaging on the mobile phone. The results of this study indicate that the majority of participants like kinetic text messaging and would use this design in the future.

		Yes	No
1	Call me later	26	4
2	Do you wanna eat w/ me?	21	9
3	What's up?	27	3
4	I miss ya	25	5
5	Have a good nite	24	6
6	I love ya	26	4

Table 3.11 User's impression

4. Final Survey Overall Comparison



	Design 1		Design 2		Design 3		Design 4		Design 5		Design 6	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Q1												
Q2	29	1	29	1	27	3	28	2	28	2	29	1
Q3	29	1	19	11	26	4	26	4	24	6	28	2
Q4	28	2	23	7	26	4	26	4	24	6	28	2
Q5	28	2	22	8	27	3	30	0	27	3	24	6
Q6	26	4	21	9	27	3	25	5	24	6	26	4
		10		36		17		15		23		15

Fegure 3.31 Design comparison

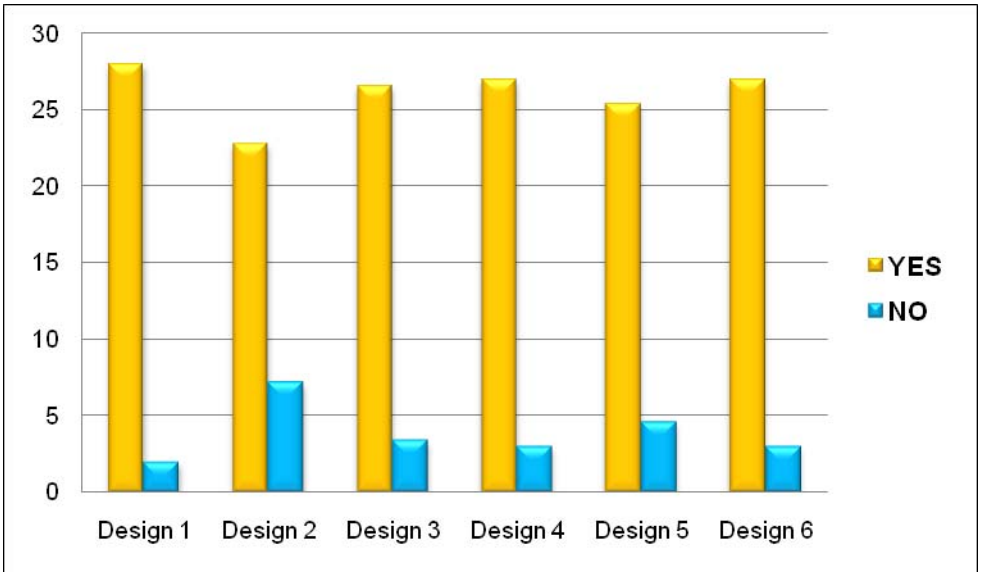


Figure 3.12 Overall design comparisons

Based on the data collected by the final survey, (figure 3.31, 32) "*call me later*(design1)," was the most successful design and "*do you wanna eat w/me*?(deisgn 2)" was the less preferred. The relationships between small screen and 3 dimensional typography raised questions for further research.

CHAPTER 4. CONCLUSION

The text message has become a major communication tool among young users. It is not primarily used for serious and task-oriented communication, but rather for expressive and social functions, or example, informal messages like “how are ya doing” “ and “whazp?” Humor, gags and play are central objectives of textual messaging. Text messages are not typically sent to strangers, but rather are used in communication between friends, lovers, or family members.

This study has explored kinetic text messaging as a means to enhance the communications experience. To better understand the potential of kinetic text messaging, the study used an onscreen prototype of a mobile phone with designed text that moves and changes over time. The use of kinetic text can add significant appeal to the expressive capabilities of text. It has the capability to bring speech like expressiveness to the mobile phone format. The stated objectives of this study were:

1) To explore the mobile phone screen as a design format
2) To learn how the design elements and principles can be applied to kinetic text messages and to enhance text communication.
3) To determine the appeal and level of acceptance of kinetic text messaging among young users.
4) To explore the readability of kinetic typography on the small screen.

These objectives are very introductory in the area of kinetic messaging on the mobile phone. Certainly there are many more questions to ask.

The mobile phone screen proved to be a viable, but challenging design format.

The color depth available on a small screen is constantly increasing, and we can expect this trend to continue. Improved technology has improved resolution, colors display, and the capacity of the mobile phone to the extent that it now offers an intriguing design format.. As they currently exist, processor performance, screen resolution and color depth offer considerable freedom of design

Too Small a screen size does not effectively support rich media delivery and kinetic text messaging, fortunately, the screen size of mobile phone has become larger in recent years to accommodate entertainment features such as video games and images. These same advances make kinetic text messaging possible. Design for the small screen, however has its own unique problems and opportunities.

Excessive Graphics and color might be a little distracting for small screen audiences. Movement which is too fast also could also be overwhelming and lack readability. It appears important to maintain sufficiently large type sizes on the small screen. Script type may be hard to read. Wherever possible, words should be presented in uniform color and the entire sentence should appear onscreen at least once, preferably at the conclusion.

The design elements and principles were successfully applied to the task of creating kinetic text messages, however the applications of these principles proved unique in a time-based media. In the design process, the text message was represented with different elements and principles of design such as different sizes and colors used with contrast and changes in tempo**.** Different kinetic effects were used to signify differences in the tone of voice. The messages were designed by interpreting the tone of voice with appropriate principles of design. Often these interpretations involved changing one element over time based on the selected principal. For example, the initial survey

identified “what’s up,” as an expression pronounced with a jocular or upbeat tone of voice. People tend to say this with a strong playful voice. Therefore the design interpreted the strength of voice as bold type and strong contrast. The motion was from small to large, actually expanding off the screen; this portrayed the upbeat tone.

The participant survey indicates that young users like kinetic text messaging. Eighty-five percent reported that they would, indeed, use this kind of message in the future.

The conclusion, therefore, is that the appeal of kinetic text messaging and level of acceptance among users appears to be high. Kinetic text messaging for mobile phones should be developed as a future feature for users of mobile phones.

Readability of kinetic text on the small screen proved challenging, however there is sufficient evidence to demonstrate that it can be done if designed correctly. The text in the examples “call me later” and “I love ya” were rated readable, while “Do you wanna eat w/ me” and “have a good nite” were rated less readable. Comparing the more and less readable examples, suggests that text sizes should be large, script should be avoided, and the entire shrase should appear on screen at least once. Sequential appearance and disappearance of words seems to reduce readability. The reader may miss the first part of the message, or fail to assemble the phrase. Repetition of the message and its elements seems to increase readability and comprehension.

Even though the study results are promising, a larger sample size will be needed to increase validity. In future studies, the larger sample size will permit generalization of the results. Furthermore the integration of sound and the emotional capability of kinetic text are areas that merit further study.

APPENDIX: SURVEY QUESTIONNAIRE

Questionnaire

1.Gender
☐ Male ☐ Female

2.Age
☐ 18-19 ☐ 20-21 ☐ 21-22 ☐ 23-24 ☐ 25 over

3.Education level
☐ Freshman ☐ Sophomore ☐ Junior ☐ Senior ☐ Graduate

4.Native Language
☐ English ☐ Other *Please specify the language* _____

5.How many years have you used mobile phone for your communication?
☐ Less than a year ☐ 1 year ☐ 1 to 2 years ☐ 2 to 4 years ☐ More than 4 years

6.How old is your current mobile phone?
☐ Less than a year ☐ 1 year ☐ 1 to 2 years ☐ 2 to 4 years ☐ More than 4 years

7.what type of text message plan do you use?
☐ Any 400 Messages per month
☐ Any 1000 Messages per month
☐ Unlimited Messages per month
☐ Other *Please specify the service plan* _____

8. How often do you use the mobile phone text message service per week?
☐ Up to 5 times per week
☐ 6-20 times per weeks
☐ 20-50 times per week
☐ 50-80 times per week
☐ more than 80 times per week

9. How much is the average length of Text messaging?
☐ 1 line ☐ 2 lines ☐ 3 lines ☐ 4 lines ☐ more than 4 line

10. How often do you use abbreviation and shortens for text message.
☐ Never use
☐ Occasionally
☐ often
☐ frequently
☐ mainly always

11. Do you have any kind of service plan for text messages ?
☐ Yes → GO to Question #12
☐ No thanks for the survey

Questionnaire

12. Please list sentences that you often use to your friends ,s ignificant other and parents.
-including abbreviations and shortens

For friends
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

For a siginificant other
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

For parents
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Informed Consent Form

TITLE OF STUDY: Kinetic type for the mobile phone text messaging.

PI:Sooyun Im(graduate student), 515-441-9305, isy52@iastate.edu
Co-PI:SungHyun Kang(major professor), 515 294 1669, shrkang@iastate.edu

INTRODUCTION
This is a research study for MFA thesis in Graphic Design which is about mobile phone text messaging. The purpose of this survey is to examine and find various patterns of text messages among colleage students and see the nature of their conversations trough the text messaging service.

DESCRIPTION OF PROCEDURES.
If you agree to participate in this survey, your participation will last for 10 - 15 minutes. You will be asked to complete a 12-question survey about mobile phone text messaging and a 7-question, follow-up survey after looking at visual prototype.

RISK
There are no foreseeable risks in this study

BENEFITS
Participation will not benefit directly from this study. However, the knowledge or information gathered in this research will help future research in designing mobile phone text message applications.

COST AND COMPENSATION.
You will not be compensated for participating in this study and there is no cost in participating in this survey.

PARTICIPANT'S RIGHTS
Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early. It will not result in any penalty or loss of benefits to which you are otherwise entitled. During the testing. if you feel uncomfortable at any time you can quit.

CONFIDENTIALITY
Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicity available. However, federal government regulatory agencies and the institutional Review Broad(a committee that review and approves human subject research studies) may inspect and or copy your records for quality assurance and data analysis. Thse records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken. There is no identifier in this questionnaire and the participants' identity will be anonymous all throughout the survey. Only the PI and Co- PI will I have access to the data. The data will be stored in a password-protected computer. Data will be used only for the purpose pf study for the MFA thesis.

FOR QUESTIONS OR PROBLEMS
You are encouraged to ask questions at any time during this study. For further information about study contact Sooyun Im at 515-441-9305 (isy52@iastate.edu) or Sunghyun Kang at 294-1669(shrkang@iastate.edu).

If you have any questions about the rights of research subjects or Research related injury; please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, Office of Research Assurances, (515) 294-3115, 1138 Pearson Hall, Ames, IA 50011.

Thank you very much for your participation.

Follow up survey

Questionnaire

1. How would you rate this prototype?

☐ Excellent ☐ Good ☐ Fair ☐ Poor

2. This prototype is useful.

☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly disagree

3.The colors for the text messages are appropriate.

☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly disagree

4.The type is readable and easy to understand.

☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly disagree

5.The type size is appropriate for the mobile phone display screen.

☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly disagree

6.Would you use the design from prototype in the future?.

☐ Yes ☐ No

7. Do you have any comments or suggestions to improve this prototype?

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